

瞬态抑制二极管 TVS (Transient Voltage Suppressors)

TVS是一种限压型的过压保护器，它将过高的电压钳制至一个安全范围，藉以保护后面的电路，有着比其它保护元件更快的反应时间，这使TVS可用在防护lighting、switching、ESD等快速破坏性瞬态电压。

TVS广泛应用在敏感电子零件过压保护，包括电脑、通讯、工业产品、消费性电子及汽车市场。

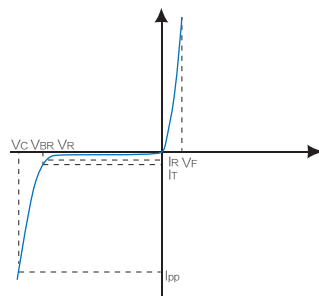
TVS Diode is a type of voltage suppressing device that limits over voltages to a safe range to prevent circuit from damaging and has a faster response time than other protection components. This allows TVS to be used in suppressing fast damaging transient voltage, such as lighting, switching, ESD, etc. TVS Diodes are widely used in over voltage protection of sensitive electronic components, including computer, telecommunication, industrial products, consumer electronic, automotive market, etc.



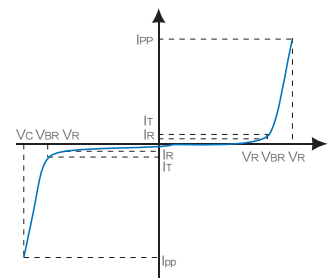
应用 Application

- ▲ 家用电器 Home appliances
- ▲ 家用娱乐系统 Family entertainment
- ▲ 移动设备 Mobile Devices
- ▲ 汽车 Auto
- ▲ 工业控制 Industrial Control
- ▲ 电脑 等 PC etc.
- ▲ 通信设备 Communication Equipment
- ▲ 照明 Lighting

I-V Curve Characteristics



Uni-directional



Bi-directional

V_R	Reverse Stand off Voltage	反向关断电压，当TVS两端电压小于等于此值时，TVS处于截止状态
V_{BR}	Breakdown Voltage	击穿电压，当TVS两端电压大于此值时，TVS开始导通
V_C	Maximum Clamping Voltage@IPP	钳位电压，正常情况下TVS两端电压不会大于此值
I_R	Maximum Reverse Leakage@V _R	最大漏电流
I_T	Test current	测试电流
I_{PP}	Maximum Reverse Surge Current	最大反向浪涌电流，当通过TVS的电流超过此值时，TVS可能损坏。通常情况下TVS使用10/1000 μ s波形的电流源测试所得。

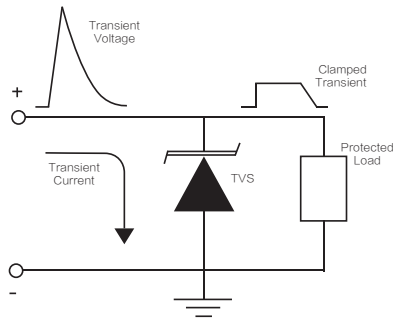


Figure 1. Transient Current is Diverted to Ground Through TVS

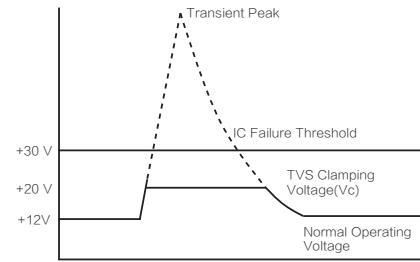


Figure 2. Transients of Several Thousand Volts can be “clamped” to a Safe Level by the TVS

在这个电路中，正常情况下TVS是不工作的，只有当电路中出现异常浪涌TVS才会起作用。TVS的参数如：击穿电压（VBR），漏电流（IR）和寄生电容C都不能影响电路的正常工作。TVS的击穿电压通常比反向关断电压高10%

In a circuit, TVS is often "hidden" until a transient event occurs, the electrical parameters such as: Breakdown Voltage (VBR), leakage current (IR) and capacitor C should not affect normal circuit operation.

TVS Breakdown Voltage (VBR) is often higher than the reverse voltage (VRWM) value of 10%.

Pppm(W)	Device	Package	
		Family	Type
200	SMF Series	Surface Mount	SOD-123FL
400	SMAJ Series	Surface Mount	DO-214AC (SMA)
500	SA Series	Plastic axial	DO-15
600	SMBJ Series	Surface Mount	DO-214AA (SMB)
	P6SMB Series	Surface Mount	DO-214AA (SMB)
	P6KE Series	Plastic axial	DO-15
800	P8SMB Series	Surface Mount	DO-214AA (SMB)
1000	1.0SMB Series	Surface Mount	DO-214AA (SMB)
1500	SMCJ Series	Surface Mount	DO-214AB (SMC)
	1.5KE Series	Plastic axial	DO-201
3000	SMDJ Series	Surface Mount	DO-214AB (SMC)
	3KP Series	Plastic axial	P600
5000	5.0SMDJ Series	Surface Mount	DO-214AB (SMC)
	5KP Series	Plastic axial	P600
6600	SMB Series	Surface Mount	DO-218AB
8000	8KP Series	Plastic axial	P600
15000	15KP Series	Plastic axial	P600

SMF Series 200W (SOD-123FL)

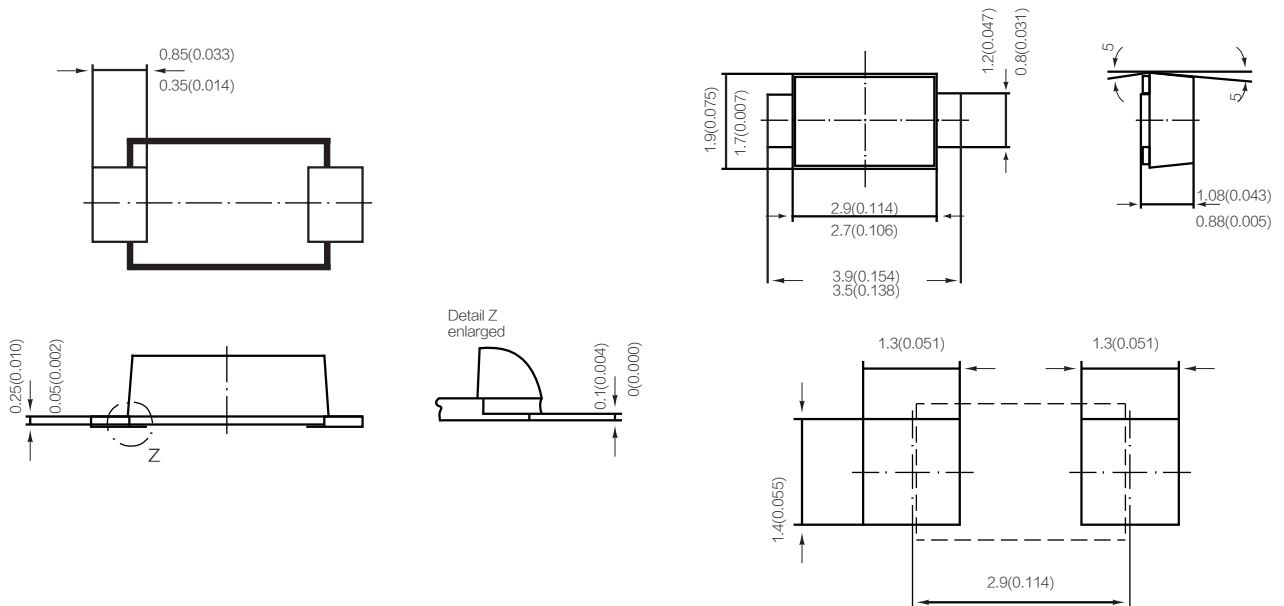
Part Number (Bi)	Part Number (Uni)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_R		Test Current I_R (mA)	Maximum Reverse Leakage I_R @ V_R (μ A)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Clamping Voltage V_C @ I_{PP} (V)
		BI	UNI		Min. V	Max. V				
SMF5.0CA	SMF5.0A	5.0CA	5.0A	5.0	6.40	7.00	10	400	21.70	9.2
SMF6.0CA	SMF6.0A	6.0CA	6.0A	6.0	6.67	7.37	10	400	19.40	10.3
SMF6.5CA	SMF6.5A	6.5CA	6.5A	6.5	7.22	7.98	10	250	17.90	11.2
SMF7.0CA	SMF7.0A	7.0CA	7.0A	7.0	7.78	8.60	10	100	16.70	12.0
SMF7.5CA	SMF7.5A	7.5CA	7.5A	7.5	8.33	9.21	1.0	50	15.50	12.9
SMF8.0CA	SMF8.0A	8.0CA	8.0A	8.0	8.89	9.83	1.0	25	14.70	13.6
SMF8.5CA	SMF8.5 A	8.5CA	8.5A	8.5	9.44	10.4	1.0	10	13.90	14.4
SMF9.0CA	SMF9.0 A	9.0CA	9.0A	9	10.0	11.1	1.0	5.0	13.00	15.4
SMF10CA	SMF10A	10CA	10A	10	11.1	12.3	1.0	2.0	11.80	17.0
SMF11CA	SMF11A	11CA	11A	11	12.2	13.5	1.0	2.0	11.00	18.2
SMF12CA	SMF12A	12CA	12A	12	13.3	14.7	1.0	2.0	10.10	19.9
SMF13CA	SMF13A	13CA	13A	13	14.4	15.9	1.0	1.0	9.30	21.5
SMF14CA	SMF14A	14CA	14A	14	15.6	17.2	1.0	1.0	8.62	23.2
SMF15CA	SMF15A	15CA	15A	15	16.7	18.5	1.0	1.0	8.20	24.4
SMF16CA	SMF16A	16CA	16A	16	17.8	19.7	1.0	1.0	7.69	26.0
SMF17CA	SMF17A	17CA	17A	17	18.9	20.9	1.0	1.0	7.25	27.6
SMF18CA	SMF18A	18CA	18A	18	20.0	22.1	1.0	1.0	6.85	29.2
SMF19CA	SMF19A	19CA	19A	19	21.0	23.3	1.0	1.0	6.54	30.6
SMF20CA	SMF20A	20CA	20A	20	22.2	24.5	1.0	1.0	6.17	32.4
SMF22CA	SMF22A	22CA	22A	22	24.4	26.9	1.0	1.0	5.63	35.5
SMF24CA	SMF24A	24CA	24A	24	26.7	29.5	1.0	1.0	5.14	38.9
SMF26CA	SMF26A	26CA	26A	26	28.9	31.9	1.0	1.0	4.75	42.1
SMF28CA	SMF28A	28CA	28A	28	31.1	34.4	1.0	1.0	4.41	45.4
SMF30CA	SMF30A	30CA	30A	30	33.3	36.8	1.0	1.0	4.13	48.4
SMF33CA	SMF33A	33CA	33A	33	36.7	40.6	1.0	1.0	3.75	53.3
SMF36CA	SMF36A	36CA	36A	36	40.0	44.2	1.0	1.0	3.44	58.1
SMF40CA	SMF40A	40CA	40A	40	44.4	49.1	1.0	1.0	3.10	64.5
SMF43CA	SMF43A	43CA	43A	43	47.8	52.8	1.0	1.0	2.88	69.4
SMF45CA	SMF45A	45CA	45A	45	50.0	55.3	1.0	1.0	2.75	72.7
SMF48CA	SMF48A	48CA	48A	48	53.3	58.9	1.0	1.0	2.58	77.4
SMF51CA	SMF51A	51CA	51A	51	56.7	62.7	1.0	1.0	2.43	82.4
SMF54CA	SMF54A	54CA	54A	54	60.0	66.3	1.0	1.0	2.30	87.1
SMF58CA	SMF58A	58CA	58A	58	64.4	71.2	1.0	1.0	2.14	93.6
SMF60CA	SMF60A	60CA	60A	60	66.7	73.7	1.0	1.0	2.07	96.8
SMF64CA	SMF64A	64CA	64A	64	71.1	78.6	1.0	1.0	1.94	103
SMF70CA	SMF70A	70CA	70A	70	77.8	86.0	1.0	1.0	1.77	113
SMF75CA	SMF75A	75CA	75A	75	83.3	92.1	1.0	1.0	1.65	121



SMF Series 200W (SOD-123FL)

Part Number (Bi)	Part Number (Uni)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_T		Test Current I_T (mA)	Maximum Reverse Leakage I_R @ V_R (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage V_C @ I_{pp} (V)
		BI	UNI		Min. V	Max. V				
SMF78CA	SMF78A	78CA	78A	78	86.7	95.8	1.0	1.0	1.59	126
SMF80CA	SMF80A	80CA	80A	80	88.8	97.6	1.0	1.0	1.55	129
SMF85CA	SMF85A	85CA	85A	85	94.4	104	1.0	1.0	1.46	137
SMF90CA	SMF90A	90CA	90A	90	100	111	1.0	1.0	1.37	146
SMF100CA	SMF100A	100CA	100A	100	111	123	1.0	1.0	1.23	162
SMF110CA	SMF110A	110CA	110A	110	122	135	1.0	1.0	1.13	177
SMF120CA	SMF120A	120CA	120A	120	133	147	1.0	1.0	1.04	193
SMF130CA	SMF130A	130CA	130A	130	144	159	1.0	1.0	0.96	209
SMF140CA	SMF140A	140CA	140A	140	155	171	1.0	1.0	0.89	224
SMF150CA	SMF150A	150CA	150A	150	167	185	1.0	1.0	0.82	243
SMF160CA	SMF160A	160CA	160A	160	178	197	1.0	1.0	0.77	259
SMF170CA	SMF170A	170CA	170A	170	189	209	1.0	1.0	0.73	275
SMF180CA	SMF180A	180CA	180A	180	200	220	1.0	1.0	0.69	290

PACKAGE OUTLINE DIMENSIONS in millimeters (inches) SOD123FL



SMAJ Series 400W(DO-214AC)

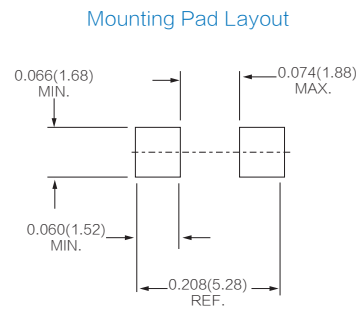
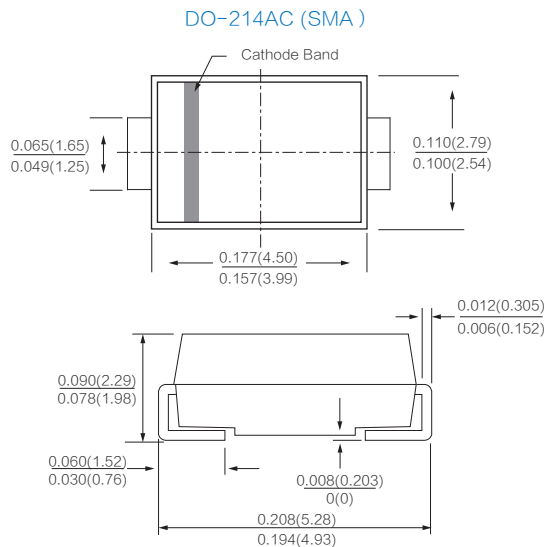
Part Number (Bi)	Part Number (Uni)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_r		Test Current I_r (mA)	Maximum Reverse Leakage $I_{R@V_R}$ (μ A)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)
		BI	UNI		Min .V	Max.V				
SMAJ5.0CA	SMAJ5.0A	WE	AE	5.0	6.40	7.00	10	500	43.5	9.2
SMAJ6.0CA	SMAJ6.0A	WG	AG	6.0	6.67	7.37	10	500	38.8	10.3
SMAJ 6.5CA	SMAJ 6.5A	WK	AK	6.5	7.22	7.90	10	300	35.7	11.2
SMAJ7.0CA	SMAJ7.0A	WM	AM	7.0	7.78	8.60	10	200	33.3	12.0
SMAJ 7.5CA	SMAJ 7.5A	WP	AP	7.5	8.33	9.21	1	100	31.0	12.9
SMAJ 8.0CA	SMAJ 8.0A	WR	AR	8.0	8.89	9.83	1	50	29.4	13.6
SMAJ8.5CA	SMAJ8.5A	WT	AT	8.5	9.44	10.40	1	20	27.8	14.4
SMAJ9.0CA	SMAJ9.0A	WV	AV	9.0	10.00	11.10	1	10	26.0	15.4
SMAJ10CA	SMAJ10 A	WX	AX	10.0	11.10	12.30	1	5	23.5	17.0
SMAJ11CA	SMAJ11 A	WZ	AZ	11.0	12.20	13.50	1	1	22.0	18.2
SMAJ12CA	SMAJ12A	XE	BE	12.0	13.30	14.70	1	1	20.1	19.9
SMAJ13CA	SMAJ13A	XG	BG	13.0	14.40	15.90	1	1	18.6	21.5
SMAJ14CA	SMAJ14A	XK	BK	14.0	15.60	17.20	1	1	17.2	23.2
SMAJ15CA	SMAJ15A	XM	BM	15.0	16.70	18.50	1	1	16.4	24.4
SMAJ16CA	SMAJ16A	XP	BP	16.0	17.80	19.70	1	1	15.4	26.0
SMAJ17CA	SMAJ17A	XR	BR	17.0	18.90	20.90	1	1	14.5	27.6
SMAJ18CA	SMAJ18A	XT	BT	18.0	20.00	22.10	1	1	13.7	29.2
SMAJ20CA	SMAJ20A	XV	BV	20.0	22.20	24.50	1	1	12.3	32.4
SMAJ22CA	SMAJ22A	XX	BX	22.0	24.40	26.90	1	1	11.3	35.5
SMAJ24CA	SMAJ24A	XZ	BZ	24.0	26.70	29.50	1	1	10.3	38.9
SMAJ26CA	SMAJ26A	YE	CE	26.0	28.90	31.90	1	1	9.5	42.1
SMAJ28CA	SMAJ28A	YG	CG	28.0	31.10	34.40	1	1	8.8	45.4
SMAJ30CA	SMAJ30A	YK	CK	30.0	33.30	36.80	1	1	8.3	48.4
SMAJ33CA	SMAJ33A	YM	CM	33.0	36.70	40.60	1	1	7.5	53.3
SMAJ36CA	SMAJ36A	YP	CP	36.0	40.00	44.20	1	1	6.9	58.1
SMAJ40CA	SMAJ40A	YR	CR	40.0	44.40	49.10	1	1	6.2	64.5
SMAJ43CA	SMAJ43A	YT	CT	43.0	47.80	52.80	1	1	5.8	69.4
SMAJ45CA	SMAJ45A	YV	CV	45.0	50.00	55.30	1	1	5.5	72.7
SMAJ48CA	SMAJ48A	YX	CX	48.0	53.30	58.90	1	1	5.2	77.4
SMAJ51CA	SMAJ51A	YZ	CZ	51.0	56.70	62.70	1	1	4.9	82.4
SMAJ54CA	SMAJ54A	ZE	RE	54.0	60.00	66.30	1	1	4.6	87.1
SMAJ58CA	SMAJ58A	ZG	RG	58.0	64.40	71.20	1	1	4.3	93.6
SMAJ60CA	SMAJ60A	ZK	RK	60.0	66.70	73.70	1	1	4.1	96.8
SMAJ64CA	SMAJ64A	ZM	RM	64.0	71.10	78.60	1	1	3.9	103.0
SMAJ70CA	SMAJ70A	ZP	RP	70.0	77.80	86.00	1	1	3.5	113.0
SMAJ75CA	SMAJ75A	ZR	RR	75.0	83.30	92.10	1	1	3.3	121.0
SMAJ78CA	SMAJ78A	ZT	RT	78.0	86.70	95.80	1	1	3.2	126.0



SMAJ Series 400W(DO-214AC)

Part Number (Bi)	Part Number (Uni)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_T		Test Current I_T (mA)	Maximum Reverse Leakage I_R @ V_R (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage V_C @ I_{pp} (V)
		BI	UNI		Min. V	Max. V				
SMAJ85CA	SMAJ85A	ZV	RV	85.0	94.4	104.0	1	1	2.9	137.0
SMAJ90CA	SMAJ90A	ZX	RX	90.0	100.0	111.0	1	1	2.7	146.0
SMAJ100CA	SMAJ100A	ZZ	RZ	100.0	111.0	123.0	1	1	2.5	162.0
SMAJ110CA	SMAJ110A	VE	SE	110.0	122.0	135.0	1	1	2.3	177.0
SMAJ120CA	SMAJ120A	VG	SG	120.0	133.0	147.0	1	1	2.1	193.0
SMAJ130CA	SMAJ130A	VK	SK	130.0	144.0	159.0	1	1	1.9	209.0
SMAJ150CA	SMAJ150A	VM	SM	150.0	167.0	185.0	1	1	1.6	243.0
SMAJ160CA	SMAJ160A	VP	SP	160.0	178.0	197.0	1	1	1.5	259.0
SMAJ170CA	SMAJ170A	VR	SR	170.0	189.0	209.0	1	1	1.5	275.0
SMAJ180CA	SMAJ180A	VT	ST	180.0	201.0	222.0	1	1	1.4	292.0
SMAJ190CA	SMAJ190A	YU	SU	190.0	211.0	233.0	1	1	1.3	308.0
SMAJ200CA	SMAJ200A	VV	SV	200.0	224.0	247.0	1	1	1.2	324.0
SMAJ210CA	SMAJ210A	YW	SW	210.0	237.0	263.0	1	1	1.2	340.0
SMAJ220CA	SMAJ220A	VX	GE	220.0	246.0	272.0	1	1	1.1	356.0
SMAJ250CA	SMAJ250A	VZ	SZ	250.0	279.0	309.0	1	1	1.0	405.0
SMAJ300CA	SMAJ300A	UE	TE	300.0	335.0	371.0	1	1	0.8	486.0
SMAJ350CA	SMAJ350A	UG	TG	350.0	391.0	432.0	1	1	0.7	567.0
SMAJ400CA	SMAJ400A	UK	TK	400.0	447.0	494.0	1	1	0.6	648.0
SMAJ440CA	SMAJ440A	UM	TM	440.0	492.0	543.0	1	1	0.6	713.0

PACKAGE OUTLINE DIMENSIONS in inches (millimeters) DO-214AC



SMBJ Series 600W (DO-214AA)

Part Number (Bi)	Part Number (Uni)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_r		Test Current I_r (mA)	Maximum Reverse Leakage $I_{R@V_R}$ (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage $V_C@I_{pp}$ (V)
		BI	UNI		Min. V	Max. V				
SMBJ5.0CA	SMBJ5.0A	AE	KE	5.0	6.40	7.00	10	500	65.2	9.2
SMBJ6.0CA	SMBJ6.0A	AG	KG	6.0	6.67	7.37	10	500	58.3	10.3
SMBJ6.5CA	SMBJ6.5A	AK	KK	6.5	7.22	7.9	10	300	53.6	11.2
SMBJ7.0CA	SMBJ7.0A	AM	KM	7.0	7.78	8.60	10	200	50.0	12.0
SMBJ7.5CA	SMBJ7.5A	AP	KP	7.5	8.33	9.21	1	100	46.6	12.9
SMBJ8.0CA	SMBJ8.0A	AR	KR	8.0	8.89	9.83	1	50	44.2	13.6
SMBJ8.5CA	SMBJ8.5A	AT	KT	8.5	9.44	10.40	1	20	41.7	14.4
SMBJ9.0CA	SMBJ9.0A	AV	KV	9.0	10.00	11.10	1	10	39.0	15.4
SMBJ10CA	SMBJ10A	AX	KX	10.0	11.10	12.30	1	5	35.3	17.0
SMBJ11CA	SMBJ11A	AZ	KZ	11.0	12.20	13.50	1	1	33.0	18.2
SMBJ12CA	SMBJ12A	BE	LE	12.0	13.30	14.70	1	1	30.2	19.9
SMBJ13CA	SMBJ13A	BG	LG	13.0	14.40	15.90	1	1	28.0	21.5
SMBJ14CA	SMBJ14A	BK	LK	14.0	15.60	17.20	1	1	25.9	23.2
SMBJ15CA	SMBJ15A	BM	LM	15.0	16.70	18.50	1	1	24.6	24.4
SMBJ16CA	SMBJ16A	BP	LP	16.0	17.80	19.70	1	1	23.1	26.0
SMBJ17CA	SMBJ17A	BR	LR	17.0	18.90	20.90	1	1	21.8	27.6
SMBJ18CA	SMBJ18A	BT	LT	18.0	20.00	22.10	1	1	20.6	29.2
SMBJ20CA	SMBJ20A	BV	LV	20.0	22.20	24.50	1	1	18.6	32.4
SMBJ22CA	SMBJ22A	BX	LX	22.0	24.40	26.90	1	1	16.9	35.5
SMBJ24CA	SMBJ24A	BZ	LZ	24.0	26.70	29.50	1	1	15.5	38.9
SMBJ26CA	SMBJ26A	CE	ME	26.0	28.90	31.90	1	1	14.3	42.1
SMBJ28CA	SMBJ28A	CG	MG	28.0	31.10	34.40	1	1	13.3	45.4
SMBJ30CA	SMBJ30A	CK	MK	30.0	33.30	36.80	1	1	12.4	48.4
SMBJ33CA	SMBJ33A	CM	MM	33.0	36.70	40.60	1	1	11.3	53.3
SMBJ36CA	SMBJ36A	CP	MP	36.0	40.00	44.20	1	1	10.4	58.1
SMBJ40CA	SMBJ40A	CR	MR	40.0	44.40	49.10	1	1	9.3	64.5
SMBJ43CA	SMBJ43A	CT	MT	43.0	47.80	52.80	1	1	8.7	69.4
SMBJ45CA	SMBJ45A	CV	MV	45.0	50.00	55.30	1	1	8.3	72.7



SMBJ Series 600W (DO-214AA)

Part Number (Bi)	Part Number (Uni)	Marking		Reverse Stand off Voltage V _R (Volts)	Breakdown Voltage V _{BR} (Volts)@I _T		Test Current I _T (mA)	Maximum Reverse Leakage I _R @ V _R (μA)	Maximum Peak Pulse Current I _{pp} (A)	Maximum Clamping Voltage V _C @ I _{pp} (V)
		BI	UNI		Min .V	Max.V				
SMBJ48CA	SMBJ48A	CX	MX	48.0	53.30	58.90	1	1	7.8	77.4
SMBJ51CA	SMBJ51A	CZ	MZ	51.0	56.70	62.70	1	1	7.3	82.4
SMBJ54CA	SMBJ54A	DE	NE	54.0	60.00	66.30	1	1	6.9	87.1
SMBJ58CA	SMBJ58A	DG	NG	58.0	64.40	71.20	1	1	6.5	93.6
SMBJ60CA	SMBJ60A	DK	NK	60.0	66.70	73.70	1	1	6.2	96.8
SMBJ64CA	SMBJ64A	DM	NM	64.0	71.10	78.60	1	1	5.9	103.0
SMBJ70CA	SMBJ70A	DP	NP	70.0	77.80	86.00	1	1	5.3	113.0
SMBJ75CA	SMBJ75A	DR	NR	75.0	83.30	92.10	1	1	5.0	121.0
SMBJ78CA	SMBJ78A	DT	NT	78.0	86.70	95.80	1	1	4.8	126.0
SMBJ85CA	SMBJ85A	DV	NV	85.0	94.4	104.0	1	1	4.4	137.0
SMBJ90CA	SMBJ90A	DX	NX	90.0	100.0	111.0	1	1	4.1	146.0
SMBJ100CA	SMBJ100A	DZ	NZ	100.0	111.0	123.0	1	1	3.7	162.0
SMBJ110CA	SMBJ110A	EE	PE	110.0	122.0	135.0	1	1	3.4	177.0
SMBJ120CA	SMBJ120A	EG	PG	120.0	133.0	147.0	1	1	3.1	193.0
SMBJ130CA	SMBJ130A	EK	PK	130.0	144.0	159.0	1	1	2.9	209.0
SMBJ150CA	SMBJ150A	EM	PM	150.0	167.0	185.0	1	1	2.5	243.0
SMBJ160CA	SMBJ160A	EP	PP	160.0	178.0	197.0	1	1	2.3	259.0
SMBJ170CA	SMBJ170A	ER	PR	170.0	189.0	209.0	1	1	2.2	275.0
SMBJ180CA	SMBJ180A	ET	PT	180.0	201.0	222.0	1	1	2.1	292.0
SMBJ190CA	SMBJ190A	EC	PA	190.0	211.0	233.0	1	1	2.0	308.0
SMBJ200CA	SMBJ200A	EV	PV	200.0	224.0	247.0	1	1	1.9	324.0
SMBJ210CA	SMBJ210A	ED	PB	210.0	237.0	263.0	1	1	1.8	340.0
SMBJ220CA	SMBJ220A	EX	PX	220.0	246.0	272.0	1	1	1.7	356.0
SMBJ250CA	SMBJ250A	EZ	PZ	250.0	279.0	309.0	1	1	1.5	405.0
SMBJ300CA	SMBJ300A	FE	QE	300.0	335.0	371.0	1	1	1.3	486.0
SMBJ350CA	SMBJ350A	FG	QG	350.0	391.0	432.0	1	1	1.1	567.0
SMBJ400CA	SMBJ400A	FK	QK	400.0	447.0	494.0	1	1	0.9	648.0
SMBJ440CA	SMBJ440A	FM	QM	440.0	492.0	543.0	1	1	0.9	713.0

TVS

P6SMB Series 600W (DO-214AA)

Part Number (Bi)	Part Number (Uni)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_R		Test Current I_R (mA)	Maximum Reverse Leakage $I_{R@V_R}$ (μ A)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)
		BI	UNI		Min .V	Max.V				
P6SMB6.8CA	P6SMB6.8A	6V8C	6V8A	5.8	6.45	7.14	10	800	58.1	10.5
P6SMB7.5CA	P6SMB7.5A	7V5C	7V5A	6.4	7.13	7.88	10	500	54.0	11.3
P6SMB8.2CA	P6SMB8.2A	8V2C	8V2A	7.02	7.79	8.61	10	200	50.4	12.1
P6SMB9.1CA	P6SMB9.1A	9V1C	9V1A	7.78	8.65	9.55	10	50	45.5	13.4
P6SMB10CA	P6SMB10A	10C	10A	8.55	9.50	10.50	10	10	42.1	14.5
P6SMB11CA	P6SMB11A	11C	11A	9.40	10.50	11.60	1	5	39.1	15.6
P6SMB12CA	P6SMB12A	12C	12A	10.20	11.40	12.60	1	5	36.5	16.7
P6SMB13CA	P6SMB13A	13C	13A	11.10	12.40	13.70	1	1	33.5	18.2
P6SMB15CA	P6SMB15A	15C	15A	12.80	14.30	15.80	1	1	28.8	21.2
P6SMB16CA	P6SMB16A	16C	16A	13.60	15.20	16.80	1	1	27.1	22.5
P6SMB18CA	P6SMB18A	18C	18A	15.30	17.10	18.90	1	1	24.2	25.2
P6SMB20CA	P6SMB20A	20C	20A	17.10	19.00	21.00	1	1	22.0	27.7
P6SMB22CA	P6SMB22A	22C	22A	18.80	20.90	23.10	1	1	19.9	30.6
P6SMB24CA	P6SMB24A	24C	24A	20.50	22.80	25.20	1	1	18.4	33.2
P6SMB27CA	P6SMB27A	27C	27A	23.10	25.70	28.40	1	1	16.3	37.5
P6SMB30CA	P6SMB30A	30C	30A	25.60	28.50	31.50	1	1	14.7	41.4
P6SMB33CA	P6SMB33A	33C	33A	28.20	31.40	34.70	1	1	13.3	45.7
P6SMB36CA	P6SMB36A	36C	36A	30.80	34.20	37.80	1	1	12.2	49.9
P6SMB39CA	P6SMB39A	39C	39A	33.30	37.10	41.00	1	1	11.3	53.9
P6SMB43CA	P6SMB43A	43C	43A	36.80	40.90	45.20	1	1	10.3	59.3
P6SMB47CA	P6SMB47A	47C	47A	40.20	44.70	49.40	1	1	9.4	64.8
P6SMB51CA	P6SMB51A	51C	51A	43.60	48.50	53.60	1	1	8.7	70.1
P6SMB56CA	P6SMB56A	56C	56A	47.80	53.20	58.80	1	1	7.9	77.0
P6SMB62CA	P6SMB62A	62C	62A	53.00	58.90	65.10	1	1	7.2	85.0
P6SMB68CA	P6SMB68A	68C	68A	58.10	64.60	71.40	1	1	6.6	92.0
P6SMB75CA	P6SMB75A	75C	75A	64.10	71.30	78.00	1	1	5.9	103.0
P6SMB82CA	P6SMB82A	82C	82A	70.10	77.90	86.10	1	1	5.4	113.0
P6SMB91CA	P6SMB91A	91C	91A	77.80	86.50	95.50	1	1	4.9	125.0
P6SMB100CA	P6SMB100A	100C	100A	85.50	95.0	105.0	1	1	4.5	137.0
P6SMB110CA	P6SMB110A	110C	110A	94.00	105.0	116.0	1	1	4.0	152.0
P6SMB120CA	P6SMB120A	120C	120A	102.0	114.0	126.0	1	1	3.7	165.0
P6SMB130CA	P6SMB130A	130C	130A	111.0	124.0	137.0	1	1	3.4	179.0
P6SMB150CA	P6SMB150A	150C	150A	128.0	143.0	158.0	1	1	2.9	207.0
P6SMB160CA	P6SMB160A	160C	160A	136.0	152.0	168.0	1	1	2.8	219.0
P6SMB170CA	P6SMB170A	170C	170A	145.0	162.0	179.0	1	1	2.6	234.0
P6SMB180CA	P6SMB180A	180C	180A	154.0	171.0	189.00	1	1	2.5	246.0
P6SMB200CA	P6SMB200A	200C	200A	171.0	190.0	210.0	1	1	2.2	274.0



P8SMB Series 800W (DO-214AA)

Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_r		Test Current I_r (mA)	Maximum Reverse Leakage $I_R @ V_R$ (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage $V_C @ I_{pp}$ (V)
			Min .V	Max.V				
P8SMB5.0CA	P8SMB5.0A	5.0	6.4	7.25	10	800	86.96	9.2
P8SMB6.0CA	P8SMB6.0A	6.0	6.67	7.67	10	800	77.67	10.3
P8SMB6.5CA	P8SMB6.5A	6.5	7.22	8.30	10	500	71.43	11.2
P8SMB7.0CA	P8SMB7.0A	7.0	7.78	8.95	10	200	66.67	12.0
P8SMB7.5CA	P8SMB7.5A	7.5	8.33	9.58	1	100	62.02	12.9
P8SMB8.0CA	P8SMB8.0A	8.0	8.89	10.23	1	50	58.82	13.6
P8SMB8.5CA	P8SMB8.5A	8.5	9.44	10.82	1	20	55.56	14.4
P8SMB9.0CA	P8SMB9.0A	9.0	10.00	11.50	1	10	51.95	15.4
P8SMB10CA	P8SMB10A	10.0	11.1	12.3	1	10	47.06	17.0
P8SMB11CA	P8SMB11A	11.0	12.20	14.00	1	1	43.96	18.2
P8SMB12CA	P8SMB12A	12.0	13.3	14.7	1	1	40.20	19.9
P8SMB13CA	P8SMB13A	13.0	14.40	16.50	1	1	37.21	21.5
P8SMB14CA	P8SMB14A	14.0	15.60	17.2	1	1	34.48	23.2
P8SMB15CA	P8SMB15A	15.0	16.70	19.20	1	1	32.79	24.4
P8SMB16CA	P8SMB16A	16.0	17.8	19.7	1	1	30.77	26.0
P8SMB17CA	P8SMB17A	17.0	18.90	21.70	1	1	28.99	27.6
P8SMB18CA	P8SMB18A	18.0	20.00	23.30	1	1	27.40	29.2
P8SMB20CA	P8SMB20A	20.0	22.20	25.50	1	1	24.69	32.4
P8SMB22CA	P8SMB22A	22.0	24.40	28.00	1	1	22.54	35.5
P8SMB24CA	P8SMB24A	24.0	26.70	30.70	1	1	20.57	38.9
P8SMB26CA	P8SMB26A	26.0	28.90	33.20	1	1	19.00	42.1
P8SMB28CA	P8SMB28A	28.0	31.10	35.80	1	1	17.62	45.4
P8SMB30CA	P8SMB30A	30.0	33.30	38.30	1	1	16.53	48.4
P8SMB33CA	P8SMB33A	33.0	36.70	42.20	1	1	15.01	53.3
P8SMB36CA	P8SMB36A	36.0	40.00	46.00	1	1	13.77	58.1

TVS

P8SMB Series 800W (DO-214AA)

Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_T		Test Current I_T (mA)	Maximum Reverse Leakage $I_R@V_R$ (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage $V_C@I_{pp}$ (V)
			Min. V	Max. V				
P8SMB40CA	P8SMB40A	40.0	44.40	51.10	1	1	12.40	64.5
P8SMB43CA	P8SMB43A	43.0	47.80	52.80	1	1	11.53	69.4
P8SMB45CA	P8SMB45A	45.0	50.00	57.50	1	1	11.00	72.7
P8SMB48CA	P8SMB48A	48.0	53.3	58.9	1	1	10.34	77.4
P8SMB51CA	P8SMB51A	51.0	56.70	65.20	1	1	9.71	82.4
P8SMB54CA	P8SMB54A	54.0	60.0	66.3	1	1	9.18	87.1
P8SMB58CA	P8SMB58A	58.0	64.40	74.10	1	1	8.55	93.6
P8SMB60CA	P8SMB60A	60.0	66.7	73.7	1	1	8.26	96.8
P8SMB64CA	P8SMB64A	64.0	71.10	81.80	1	1	7.77	103.0
P8SMB70CA	P8SMB70A	70.0	77.80	89.50	1	1	7.08	113.0
P8SMB75CA	P8SMB75A	75.0	83.3	92.1	1	1	6.61	121.0
P8SMB78CA	P8SMB78A	78.0	86.70	99.70	1	1	6.35	126.0
P8SMB85CA	P8SMB85A	85.0	94.40	108.20	1	1	5.84	137.0
P8SMB90CA	P8SMB90A	90.0	100.0	111.0	1	1	5.48	146.0
P8SMB100CA	P8SMB100A	100.0	110.00	128.00	1	1	4.94	162.0
P8SMB110CA	P8SMB110A	110.0	122.00	140.50	1	1	4.52	177.0
P8SMB120CA	P8SMB120A	120.0	133.00	147.00	1	1	4.15	193.0
P8SMB130CA	P8SMB130A	130.0	144.00	165.50	1	1	3.83	209.0
P8SMB150CA	P8SMB150A	150.0	167.00	192.50	1	1	3.29	243.0
P8SMB160CA	P8SMB160A	160.0	178.00	197.00	1	1	3.09	259.0
P8SMB170CA	P8SMB170A	170.0	189.00	217.50	1	1	2.91	275.0
P8SMB180CA	P8SMB180A	180.0	201.00	222.00	1	1	2.74	292.0
P8SMB200CA	P8SMB200A	200.0	224.00	247.00	1	1	2.47	324.0
P8SMB220CA	P8SMB220A	220.0	246.00	272.00	1	1	2.25	356.0
P8SMB350CA	P8SMB350A	350	391	432	1	1	1.41	567

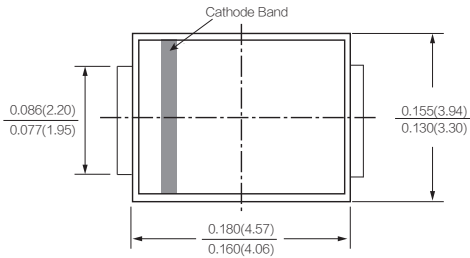


1.0SMB Series 1000W (DO-214AA)

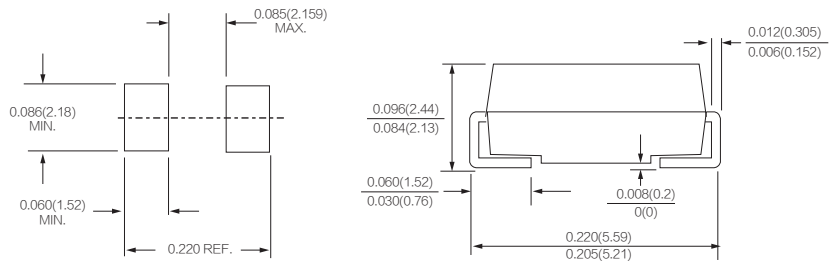
Part Number (Bi)	Part Number (Uni)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_R		Test Current I_R (mA)	Maximum Reverse Leakage I_R @ V_R (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage V_C @ I_{pp} (V)
		BI	UNI		Min. V	Max. V				
1.0SMB6.8CA	1.0SMB6.8A	N10A	A10A	5.8	6.46	7.14	10	900	95.2	10.5
1.0SMB7.5CA	1.0SMB7.5A	N10B	A10B	6.4	7.13	7.88	10	400	88.5	11.3
1.0SMB8.2CA	1.0SMB8.2A	N10C	A10C	7.0	7.79	8.61	10	180	82.6	12.1
1.0SMB9.1CA	1.0SMB9.1A	N10D	A10D	7.8	8.65	9.56	1	45	74.6	13.4
1.0SMB10CA	1.0SMB10A	N10E	A10E	8.6	9.50	10.50	1	8	69.0	14.5
1.0SMB11CA	1.0SMB11A	N10F	A10F	9.4	10.45	11.55	1	4	64.1	15.6
1.0SMB12CA	1.0SMB12A	N10G	A10G	10.2	11.40	12.60	1	1	59.9	16.7
1.0SMB13CA	1.0SMB13A	N10H	A10H	11.1	12.35	13.65	1	1	54.9	18.2
1.0SMB15CA	1.0SMB15A	N10I	A10I	12.8	14.25	15.75	1	1	47.2	21.2
1.0SMB16CA	1.0SMB16A	N10J	A10J	13.6	15.20	16.80	1	1	44.4	22.5
1.0SMB18CA	1.0SMB18A	N10K	A10K	15.3	17.10	18.90	1	1	39.7	25.2
1.0SMB20CA	1.0SMB20A	N10L	A10L	17.1	19.00	21.00	1	1	36.1	27.7
1.0SMB22CA	1.0SMB22A	N10M	A10M	18.8	20.90	23.10	1	1	32.7	30.6
1.0SMB24CA	1.0SMB24A	N10N	A10N	20.5	22.80	25.20	1	1	30.1	33.2
1.0SMB27CA	1.0SMB27A	N10O	A10O	23.1	25.65	28.35	1	1	26.7	37.5
1.0SMB30CA	1.0SMB30A	N10P	A10P	25.6	28.50	31.50	1	1	24.2	41.4
1.0SMB33CA	1.0SMB33A	N10Q	A10Q	28.2	31.35	34.65	1	1	21.9	45.7
1.0SMB36CA	1.0SMB36A	N10R	A10R	30.8	34.20	37.80	1	1	20.0	49.9
1.0SMB39CA	1.0SMB39A	N10S	A10S	33.3	37.05	40.95	1	1	18.6	53.9
1.0SMB43CA	1.0SMB43A	N10T	A10T	36.8	40.85	45.15	1	1	16.9	59.3
1.0SMB47CA	1.0SMB47A	N10U	A10U	40.2	44.65	49.35	1	1	15.4	64.8

PACKAGE OUTLINE DIMENSIONS in inches (millimeters) DO-214AA

DO-214AA (SMB)



Mounting Pad Layout



SMCJ Series 1500W(DO-214AB)

Part Number (Bi)	Part Number (Uni)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_r		Test Current I_r (mA)	Maximum Reverse Leakage $I_{R@V_R}$ (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage $V_C@I_{pp}$ (V)
		BI	UNI		Min. V	Max. V				
SMCJ5.0CA	SMCJ5.0A	BDE	GDE	5.0	6.40	7.00	10	500	163.0	9.2
SMCJ6.0CA	SMCJ6.0A	BDG	GDG	6.0	6.67	7.37	10	500	145.6	10.3
SMCJ6.5CA	SMCJ6.5A	BDK	GDK	6.5	7.22	7.90	10	300	134.0	11.2
SMCJ7.0CA	SMCJ7.0A	BDM	GDM	7.0	7.78	8.60	10	200	125.0	12.0
SMCJ7.5CA	SMCJ7.5A	BDP	GDP	7.5	8.33	9.21	1	100	116.3	12.9
SMCJ8.0CA	SMCJ8.0A	BDR	GDR	8.0	8.89	9.83	1	50	110.3	13.6
SMCJ8.5CA	SMCJ8.5A	BDT	GDT	8.5	9.44	10.40	1	20	104.2	14.4
SMCJ9.0CA	SMCJ9.0A	BDV	GDV	9.0	10.00	11.10	1	10	97.4	15.4
SMCJ10CA	SMCJ10A	BDX	GDX	10.0	11.10	12.30	1	1	88.3	17.0
SMCJ11CA	SMCJ11A	BDZ	GDZ	11.0	12.20	13.50	1	1	82.5	18.2
SMCJ12CA	SMCJ12A	BEE	GEE	12.0	13.30	14.70	1	1	75.4	19.9
SMCJ13CA	SMCJ13A	BEG	GEG	13.0	14.40	15.90	1	1	69.8	21.5
SMCJ14CA	SMCJ14A	BEK	GEK	14.0	15.60	17.20	1	1	64.7	23.2
SMCJ15CA	SMCJ15A	BEM	GEM	15.0	16.70	18.50	1	1	61.5	24.4
SMCJ16CA	SMCJ16A	BEP	GEP	16.0	17.80	19.70	1	1	57.7	26.0
SMCJ17CA	SMCJ17A	BER	GER	17.0	18.90	20.90	1	1	54.4	27.6
SMCJ18CA	SMCJ18A	BET	GET	18.0	20.00	22.10	1	1	51.4	29.2
SMCJ20CA	SMCJ20A	BEV	GEV	20.0	22.20	24.50	1	1	46.3	32.4
SMCJ22CA	SMCJ22A	BEX	GEX	22.0	24.40	26.90	1	1	42.3	35.5
SMCJ24CA	SMCJ24A	BEZ	GEZ	24.0	26.70	29.50	1	1	38.6	38.9
SMCJ26CA	SMCJ26A	BFE	GFE	26.0	28.90	31.90	1	1	35.7	42.1
SMCJ28CA	SMCJ28A	BFG	GFG	28.0	31.10	34.40	1	1	33.1	45.4
SMCJ30CA	SMCJ30A	BFK	GFK	30.0	33.30	36.80	1	1	31.0	48.4
SMCJ33CA	SMCJ33A	BFM	GFM	33.0	36.70	40.60	1	1	28.2	53.3
SMCJ36CA	SMCJ36A	BFP	GFP	36.0	40.00	44.20	1	1	25.9	58.1
SMCJ40CA	SMCJ40A	BFR	GFR	40.0	44.40	49.10	1	1	23.3	64.5
SMCJ43CA	SMCJ43A	BFT	GFT	43.0	47.80	52.80	1	1	21.7	69.4
SMCJ45CA	SMCJ45A	BFV	GFV	45.0	50.00	55.30	1	1	20.6	72.7



SMCJ Series 1500W(DO-214AB)

Part Number (Bi)	Part Number (Uni)	Marking		Reverse Stand off Voltage V _R (Volts)	Breakdown Voltage V _{BR} (Volts)@I _T		Test Current I _T (mA)	Maximum Reverse Leakage I _R @ V _R (μA)	Maximum Peak Pulse Current I _{pp} (A)	Maximum Clamping Voltage V _C @ I _{pp} (V)
		BI	UNI		Min .V	Max.V				
SMCJ48CA	SMCJ48A	BFX	GFX	48.0	53.30	58.90	1	1	19.4	77.4
SMCJ51CA	SMCJ51A	BFZ	GFZ	51.0	56.70	62.70	1	1	18.2	82.4
SMCJ54CA	SMCJ54A	BGE	GGE	54.0	60.00	66.30	1	1	17.3	87.1
SMCJ58CA	SMCJ58A	BGG	GGG	58.0	64.40	71.20	1	1	16.1	93.6
SMCJ60CA	SMCJ60A	BGK	GGK	60.0	66.70	73.70	1	1	15.5	96.8
SMCJ64CA	SMCJ64A	BGM	GGM	64.0	71.10	78.60	1	1	14.6	103.0
SMCJ70CA	SMCJ70A	BGP	GGP	70.0	77.80	86.00	1	1	13.3	113.0
SMCJ75CA	SMCJ75A	BGR	GGR	75.0	83.30	92.10	1	1	12.4	121.0
SMCJ78CA	SMCJ78A	BGT	GGT	78.0	86.70	95.80	1	1	11.9	126.0
SMCJ85CA	SMCJ85A	BGV	GGV	85.0	94.4	104.0	1	1	11.0	137.0
SMCJ90CA	SMCJ90A	BGX	GGX	90.0	100.0	111.0	1	1	10.3	146.0
SMCJ100CA	SMCJ100A	BGZ	GGZ	100.0	111.0	123.0	1	1	9.3	162.0
SMCJ110CA	SMCJ110A	BHE	GHE	110.0	122.0	135.0	1	1	8.5	177.0
SMCJ120CA	SMCJ120A	BHG	GHG	120.0	133.0	147.0	1	1	7.8	193.0
SMCJ130CA	SMCJ130A	BHK	GHK	130.0	144.0	159.0	1	1	7.2	209.0
SMCJ150CA	SMCJ150A	BHM	GHM	150.0	167.0	185.0	1	1	6.2	243.0
SMCJ160CA	SMCJ160A	BHP	GHP	160.0	178.0	197.0	1	1	5.8	259.0
SMCJ170CA	SMCJ170A	BHR	GHR	170.0	189.0	209.0	1	1	5.5	275.0
SMCJ180CA	SMCJ180A	BHT	GHT	180.0	201.0	222.0	1	1	5.1	292.0
SMCJ190CA	SMCJ190A	BHU	GHU	190.0	211.0	233.0	1	1	4.8	308.0
SMCJ200CA	SMCJ200A	BHV	GHV	200.0	224.0	247.0	1	1	4.6	324.0
SMCJ210CA	SMCJ210A	BHW	GHW	210.0	237.0	263.0	1	1	4.4	340.0
SMCJ220CA	SMCJ220A	BHX	GHX	220.0	246.0	272.0	1	1	4.2	356.0
SMCJ250CA	SMCJ250A	BHZ	GHZ	250.0	279.0	309.0	1	1	3.7	405.0
SMCJ300CA	SMCJ300A	BJE	GJE	300.0	335.0	371.0	1	1	3.1	486.0
SMCJ350CA	SMCJ350A	BJG	GJG	350.0	391.0	432.0	1	1	2.6	567.0
SMCJ400CA	SMCJ400A	BJK	GJK	400.0	447.0	494.0	1	1	2.3	648.0
SMCJ440CA	SMCJ440A	BJM	GJM	440.0	492.0	543.0	1	1	2.1	713.0

TVS

SMDJ Series 3000W(DO-214AB)

Part Number (Bi)	Part Number (Uni)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_r		Test Current I_r (mA)	Maximum Reverse Leakage $I_R@V_R$ (μ A)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)
		BI	UNI		Min .V	Max.V				
SMDJ5.0CA	SMDJ5.0A	DDE	RDE	5.0	6.40	7.00	10	800	326.1	9.2
SMDJ6.0CA	SMDJ6.0A	DDG	RDG	6.0	6.67	7.37	10	800	291.3	10.3
SMDJ6.5CA	SMDJ6.5A	DDK	RDK	6.5	7.22	7.98	10	500	267.9	11.2
SMDJ7.0CA	SMDJ7.0 A	DDM	PDM	7.0	7.78	8.60	10	200	250.0	12.0
SMDJ7.5CA	SMDJ7.5A	DDP	PDP	7.5	8.33	9.21	1	100	232.6	12.9
SMDJ8.0CA	SMDJ8.0A	DDR	PDR	8.0	8.89	9.83	1	50	220.6	13.6
SMDJ8.5CA	SMDJ8.5A	DDT	PDT	8.5	9.44	10.40	1	20	208.3	14.4
SMDJ9.0CA	SMDJ9.0A	DDV	PDV	9.0	10.00	11.10	1	10	194.8	15.4
SMDJ10CA	SMDJ10A	DDX	PDX	10.0	11.10	12.30	1	5	176.5	17.0
SMDJ11CA	SMDJ11A	DDZ	PDZ	11.0	12.20	13.50	1	2	164.8	18.2
SMDJ12CA	SMDJ12A	DEE	PEE	12.0	13.30	14.70	1	2	150.8	19.9
SMDJ13CA	SMDJ13A	DEG	PEG	13.0	14.40	15.90	1	2	139.5	21.5
SMDJ14CA	SMDJ14A	DEK	PEK	14.0	15.60	17.20	1	2	129.3	23.2
SMDJ15CA	SMDJ15A	DEM	PEM	15.0	16.70	18.50	1	2	123.0	24.4
SMDJ16CA	SMDJ16A	DEP	PEP	16.0	17.80	19.70	1	2	115.4	26.0
SMDJ17CA	SMDJ17A	DER	PER	17.0	18.90	20.90	1	2	108.7	27.6
SMDJ18CA	SMDJ18A	DET	PET	18.0	20.00	22.10	1	2	102.7	29.2
SMDJ20CA	SMDJ20A	DEV	PEV	20.0	22.20	24.50	1	2	92.6	32.4
SMDJ22CA	SMDJ22A	DEX	PEX	22.0	24.40	26.90	1	2	84.5	35.5
SMDJ24CA	SMDJ24A	DEZ	PEZ	24.0	26.70	29.50	1	2	77.1	38.9
SMDJ26CA	SMDJ26A	DFE	PFE	26.0	28.90	31.90	1	2	71.3	42.1
SMDJ28CA	SMDJ28A	DFG	PFG	28.0	31.10	34.40	1	2	66.1	45.4
SMDJ30CA	SMDJ30A	DFK	PFK	30.0	33.30	36.80	1	2	62.0	48.4
SMDJ33CA	SMDJ33A	DFM	PFM	33.0	36.70	40.60	1	2	56.3	53.3
SMDJ36CA	SMDJ36A	DFP	PFP	36.0	40.00	44.20	1	2	51.6	58.1
SMDJ40CA	SMDJ40A	DFR	PFR	40.0	44.40	49.10	1	2	46.5	64.5



SMDJ Series 3000W(DO-214AB)

Part Number (Bi)	Part Number (Uni)	Marking		Reverse Stand off Voltage V _R (Volts)	Breakdown Voltage V _{BR} (Volts)@I _T		Test Current I _T (mA)	Maximum Reverse Leakage I _R @ V _R (μA)	Maximum Peak Pulse Current I _{pp} (A)	Maximum Clamping Voltage V _C @ I _{pp} (V)
		BI	UNI		Min .V	Max.V				
SMDJ43CA	SMDJ43A	DFT	PFT	43.0	47.80	52.80	1	2	43.2	69.4
SMDJ45CA	SMDJ45A	DFV	PFV	45.0	50.00	55.30	1	2	41.3	72.7
SMDJ48CA	SMDJ48A	DFX	PFX	48.0	53.30	58.90	1	2	38.8	77.4
SMDJ51CA	SMDJ51A	DFZ	PFZ	51.0	56.70	62.70	1	2	36.4	82.4
SMDJ54CA	SMDJ54A	DGE	RGE	54.0	60.00	66.30	1	2	34.4	87.1
SMDJ58CA	SMDJ58A	DGG	PGG	58.0	64.40	71.20	1	2	32.1	93.6
SMDJ60CA	SMDJ60A	DGK	PGK	60.0	66.70	73.70	1	2	31.0	96.8
SMDJ64CA	SMDJ64A	DGM	PGM	64.0	71.10	78.60	1	2	29.1	103.0
SMDJ70CA	SMDJ70A	DGP	PGP	70.0	77.80	86.00	1	2	26.5	113.0
SMDJ75CA	SMDJ75A	DGR	PGR	75.0	83.30	92.10	1	2	24.8	121.0
SMDJ78CA	SMDJ78A	DGT	PGT	78.0	86.70	95.80	1	2	23.8	126.0
SMDJ85CA	SMDJ85A	DGV	PGV	85.0	94.40	104.0	1	2	21.9	137.0
SMDJ90CA	SMDJ90A	DGX	PGX	90.0	100.0	111.0	1	2	20.5	146.0
SMDJ100CA	SMDJ100A	DGZ	PGZ	100.0	111.0	123.0	1	2	18.5	162.0
SMDJ110CA	SMDJ110A	DHE	PHE	110.0	122.0	135.0	1	2	16.9	177.0
SMDJ120CA	SMDJ120A	DHG	PHG	120.0	133.0	147.0	1	2	15.5	193.0
SMDJ130CA	SMDJ130A	DHK	PHK	130.0	144.0	159.0	1	2	14.4	209.0
SMDJ150CA	SMDJ150A	DHM	PHM	150.0	167.0	185.0	1	2	12.3	243.0
SMDJ160CA	SMDJ160A	DHP	PHP	160.0	178.0	197.0	1	2	11.6	259.0
SMDJ170CA	SMDJ170A	DHR	PHR	170.0	189.0	209.0	1	2	10.9	275.0
SMDJ180CA	SMDJ180A	IHT	HHT	180.0	201.0	222.0	1	2	10.3	292.0
SMDJ190CA	SMDJ190A	IHV	HHV	190.0	211.0	233.0	1	2	9.7	308.0
SMDJ200CA	SMDJ200A	IHX	HHX	200.0	224.0	247.0	1	2	9.3	324.0
SMDJ210CA	SMDJ210A	IHZ	HHZ	210.0	237.0	263.0	1	2	8.8	340.0
SMDJ220CA	SMDJ220A	IIIE	HIE	220.0	246.0	272.0	1	2	8.4	356.0

5.0SMDJ Series 5000W(DO-214AB)

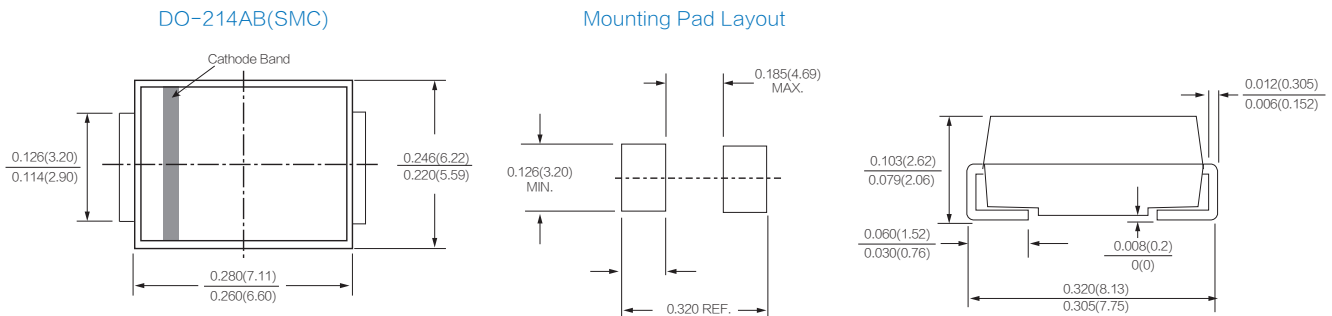
Part Number (Bi)	Part Number (Uni)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_R		Test Current I_R (mA)	Maximum Reverse Leakage $I_R@V_R$ (μ A)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)
		BI	UNI		Min .V	Max.V				
5.0SMDJ11CA	5.0SMDJ11A	5BEN	5PEN	11.0	12.20	13.50	10	800	275.00	18.2
5.0SMDJ12CA	5.0SMDJ12A	5BEP	5PEP	12.0	13.30	14.70	10	800	252.00	19.9
5.0SMDJ13CA	5.0SMDJ13A	5BEQ	5PEQ	13.0	14.40	15.90	10	500	233.00	21.5
5.0SMDJ14CA	5.0SMDJ14A	5BER	5PER	14.0	15.60	17.20	10	200	216.00	23.2
5.0SMDJ15CA	5.0SMDJ15A	5BES	5PES	15.0	16.70	18.50	1	100	205.00	24.4
5.0SMDJ16CA	5.0SMDJ16A	5BET	5PET	16.0	17.80	19.70	1	50	193.00	26.0
5.0SMDJ17CA	5.0SMDJ17A	5BEU	5PEU	17.0	18.90	20.90	1	20	181.00	27.6
5.0SMDJ18CA	5.0SMDJ18A	5BEV	5PEV	18.0	20.00	22.10	1	10	172.00	29.2
5.0SMDJ20CA	5.0SMDJ20A	5BEW	5PEW	20.0	22.20	24.50	1	2	155.00	32.4
5.0SMDJ22CA	5.0SMDJ22A	5BEX	5PEX	22.0	24.40	26.90	1	2	141.00	35.5
5.0SMDJ24CA	5.0SMDJ24A	5BEZ	5PEZ	24.0	26.70	29.50	1	2	129.00	38.9
5.0SMDJ26CA	5.0SMDJ26A	5BFE	5PFE	26.0	28.90	31.90	1	2	119.00	42.1
5.0SMDJ28CA	5.0SMDJ28A	5BFG	5PFG	28.0	31.10	34.40	1	2	110.00	45.4
5.0SMDJ30CA	5.0SMDJ30A	5BFK	5PFK	30.0	33.30	36.80	1	2	103.00	48.4
5.0SMDJ33CA	5.0SMDJ33A	5BFM	5PFM	33.0	36.70	40.60	1	2	93.90	53.3
5.0SMDJ36CA	5.0SMDJ36A	5BFP	5PFP	36.0	40.00	44.20	1	2	86.10	58.1
5.0SMDJ40CA	5.0SMDJ40A	5BFR	5PFR	40.0	44.40	49.10	1	2	77.60	64.5
5.0SMDJ43CA	5.0SMDJ43A	5BFT	5PFT	43.0	47.80	52.80	1	2	72.10	69.4
5.0SMDJ45CA	5.0SMDJ45A	5BFV	5PFV	45.0	50.00	55.30	1	2	68.80	72.7
5.0SMDJ48CA	5.0SMDJ48A	5BFX	5PFX	48.0	53.30	58.90	1	2	64.70	77.4
5.0SMDJ51CA	5.0SMDJ51A	5BFZ	5PFZ	51.0	56.70	62.70	1	2	60.70	82.4
5.0SMDJ54CA	5.0SMDJ54A	5BGE	5PGE	54.0	60.00	66.30	1	2	57.50	87.1
5.0SMDJ58CA	5.0SMDJ58A	5BGG	5PGG	58.0	64.40	71.20	1	2	53.50	93.6
5.0SMDJ60CA	5.0SMDJ60A	5BGK	5PGK	60.0	66.70	73.70	1	2	51.70	96.8
5.0SMDJ64CA	5.0SMDJ64A	5BGM	5PGM	64.0	71.10	78.60	1	2	48.60	103.0



5.0SMDJ Series 5000W(DO-214AB)

Part Number (Bi)	Part Number (Uni)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_T		Test Current I_T (mA)	Maximum Reverse Leakage I_R @ V_R (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage V_C @ I_{pp} (V)
		BI	UNI		Min .V	Max.V				
5.0SMDJ70CA	5.0SMDJ70A	5BGP	5PGP	70.0	77.80	86.00	1	2	44.30	113.0
5.0SMDJ75CA	5.0SMDJ75A	5BGR	5PGR	75.0	83.30	92.10	1	2	41.40	121.0
5.0SMDJ78CA	5.0SMDJ78A	5BGT	5PGT	78.0	86.70	95.80	1	2	39.70	126.0
5.0SMDJ85CA	5.0SMDJ85A	5BGV	5PGV	85.0	94.40	104.00	1	2	36.50	137.0
5.0SMDJ90CA	5.0SMDJ90A	5BGX	5PGX	90.0	100.00	111.00	1	2	34.30	146.0
5.0SMDJ100CA	5.0SMDJ100A	5BGZ	5PGZ	100.0	111.00	123.00	1	2	30.90	162.0
5.0SMDJ110CA	5.0SMDJ110A	5BHE	5PHE	110.0	122.00	135.00	1	2	28.30	177.0
5.0SMDJ120CA	5.0SMDJ120A	5BHG	5PHG	120.0	133.00	147.00	1	2	26.00	193.0
5.0SMDJ130CA	5.0SMDJ130A	5BHK	5PHK	130.0	144.00	159.00	1	2	24.00	209.0
5.0SMDJ150CA	5.0SMDJ150A	5BHM	5PHM	150.0	167.00	185.00	1	2	20.60	243.0
5.0SMDJ160CA	5.0SMDJ160A	5BHB	5PHP	160.0	178.00	197.00	1	2	19.30	259.0
5.0SMDJ170CA	5.0SMDJ170A	5BHR	5PHR	170.0	189.00	209.00	1	2	18.20	275.0

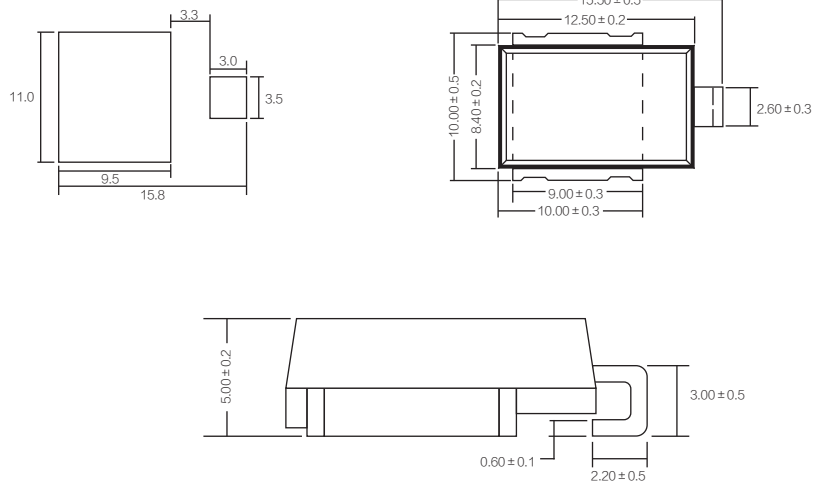
PACKAGE OUTLINE DIMENSIONS in inches (millimeters) DO-214AB



SM8 Series 6600W(DO-218AB)

Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_r		Test Current I_r (mA)	Maximum Reverse Leakage $I_{r@V_R}$ (μ A)	Maximum I_r @ V_{RWM} $T_J=175$ (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage V_C @ I_{pp} (V)
			Min. V	Max. V					
SM8S18CA	SM8S18A	18	20.00	22.10	5	10	150	226.0	29.2
SM8S22CA	SM8S22A	22	24.40	26.90	5	10	150	186.0	35.5
SM8S24CA	SM8S24A	24	26.70	29.50	5	10	150	170.0	38.9
SM8S26CA	SM8S26A	26	28.90	31.90	5	10	150	157.0	42.1
SM8S28CA	SM8S28A	28	31.10	34.40	5	10	150	145.0	45.4
SM8S30CA	SM8S30A	30	33.30	36.80	5	10	150	136.0	48.4
SM8S33CA	SM8S33A	33	36.70	40.60	5	10	150	124.0	53.3
SM8S36CA	SM8S36A	36	40.00	44.20	5	10	150	114.0	58.1
SM8S40CA	SM8S40A	40	44.40	49.10	5	10	150	102.0	64.5
SM8S43CA	SM8S43A	43	47.80	52.80	5	10	150	95.1	69.4

PACKAGE OUTLINE DIMENSIONS in inches (millimeters) DO-218AB





SA Series 500W (DO-15)



Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_r		Test Current I_r (mA)	Maximum Reverse Leakage I_R @ V_R (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage V_C @ I_{pp} (V)
			Min .V	Max.V				
SA5.0CA	SA5.0A	5.0	6.40	7.00	10	120	55.4	9.2
SA6.0CA	SA6.0A	6.0	6.67	7.37	10	120	49.5	10.3
SA6.5CA	SA6.5A	6.5	7.22	7.90	10	100	45.5	11.2
SA7.0CA	SA7.0A	7.0	7.78	8.60	10	100	42.5	12.0
SA7.5CA	SA7.5A	7.5	8.33	9.21	1	20	39.5	12.9
SA8.0CA	SA8.0A	8.0	8.89	9.83	1	15	37.5	13.6
SA8.5CA	SA8.5A	8.5	9.44	10.40	1	10	35.4	14.4
SA9.0CA	SA9.0A	9.0	10.00	11.10	1	5	33.1	15.4
SA10CA	SA10A	10	11.10	12.30	1	1	30.0	17.0
SA11CA	SA11A	11	12.20	13.50	1	1	28.0	18.2
SA12CA	SA12A	12	13.30	14.70	1	1	25.6	19.9
SA13CA	SA13A	13	14.40	15.90	1	1	23.7	21.5
SA14CA	SA14A	14	15.60	17.20	1	1	22.0	23.2
SA15CA	SA15A	15	16.70	18.50	1	1	20.9	24.4
SA16CA	SA16A	16	17.80	19.70	1	1	19.6	26.0
SA17CA	SA17A	17	18.90	20.90	1	1	18.5	27.6
SA18CA	SA18A	18	20.00	22.10	1	1	17.5	29.2
SA20CA	SA20A	20	22.20	24.50	1	1	15.7	32.4
SA22CA	SA22A	22	24.40	26.90	1	1	14.4	35.5
SA24CA	SA24A	24	26.70	29.50	1	1	13.1	38.9
SA26CA	SA26A	26	28.90	31.90	1	1	12.1	42.1
SA28CA	SA28A	28	31.10	34.40	1	1	11.2	45.4
SA30CA	SA30A	30	33.30	36.80	1	1	10.5	48.4
SA33CA	SA33A	33	36.70	40.60	1	1	9.6	53.3

TVS

SA Series 500W (DO-15)

Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_T		Test Current I_T (mA)	Maximum Reverse Leakage $I_R@V_R$ (μ A)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)
			Min .V	Max.V				
SA36CA	SA36A	36	40.00	44.20	1	1	8.8	58.1
SA40CA	SA40A	40	44.40	49.10	1	1	7.9	64.5
SA43CA	SA43A	43	47.80	52.80	1	1	7.3	69.4
SA45CA	SA45A	45	50.00	55.30	1	1	7.0	72.7
SA48CA	SA48A	48	53.30	58.90	1	1	6.6	77.4
SA51CA	SA51A	51	56.70	62.70	1	1	6.2	82.4
SA54CA	SA54A	54	60.00	66.30	1	1	5.9	87.1
SA58CA	SA58A	58	64.40	71.20	1	1	5.4	93.6
SA60CA	SA60A	60	66.70	73.70	1	1	5.3	96.8
SA64CA	SA64A	64	71.10	78.60	1	1	5.0	103.0
SA70CA	SA70A	70	77.80	86.00	1	1	4.5	113.0
SA75CA	SA75A	75	83.30	92.10	1	1	4.2	121.0
SA78CA	SA78A	78	86.70	95.80	1	1	4.0	126.0
SA85CA	SA85A	85	94.4	104.0	1	1	3.7	137.0
SA090CA	SA90A	90	100.0	111.0	1	1	3.5	146.0
SA100CA	SA100A	100	111.0	123.0	1	1	3.1	162.0
SA110CA	SA110A	110	122.0	135.0	1	1	2.9	177.0
SA120CA	SA120A	120	133.0	147.0	1	1	2.6	193.0
SA130CA	SA130A	130	144.0	159.0	1	1	2.4	209.0
SA150CA	SA150A	150	167.0	185.0	1	1	2.1	243.0
SA160CA	SA160A	160	178.0	197.0	1	1	2.0	259.0
SA170CA	SA170A	170	189.0	209.0	1	1	1.9	275.0
SA180CA	SA180A	180	201.0	222.0	1	1	1.7	292.0
SA190CA	SA190A	190	211.0	233.0	1	1	1.6	308.0



P6KE Series 600W (DO-15)



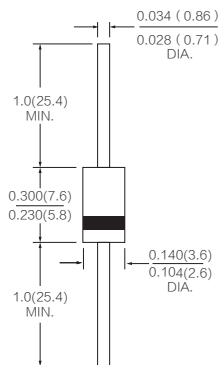
Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_r		Test Current I_r (mA)	Maximum Reverse Leakage I_R @ V_R (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage V_C @ I_{pp} (V)
			Min .V	Max.V				
P6KE6.8CA	P6KE6.8A	5.80	6.45	7.14	10	600	58.1	10.5
P6KE7.5CA	P6KE7.5A	6.40	7.13	7.88	10	400	54.0	11.3
P6KE8.2CA	P6KE8.2A	7.02	7.79	8.61	10	200	50.4	12.1
P6KE9.1CA	P6KE9.1A	7.78	8.65	9.55	1	50	45.5	13.4
P6KE10CA	P6KE10A	8.55	9.50	10.50	1	10	42.1	14.5
P6KE11CA	P6KE11A	9.40	10.50	11.60	1	5	39.1	15.6
P6KE12CA	P6KE12A	10.20	11.40	12.60	1	5	36.5	16.7
P6KE13CA	P6KE13A	11.10	12.40	13.70	1	1	33.5	18.2
P6KE15CA	P6KE15A	12.80	14.30	15.80	1	1	28.8	21.2
P6KE16CA	P6KE16A	13.60	15.20	16.80	1	1	27.1	22.5
P6KE18CA	P6KE18A	15.30	17.10	18.90	1	1	24.2	25.2
P6KE20CA	P6KE20A	17.10	19.00	21.00	1	1	22.0	27.7
P6KE22CA	P6KE22A	18.80	20.90	23.10	1	1	19.9	30.6
P6KE24CA	P6KE24A	20.50	22.80	25.20	1	1	18.4	33.2
P6KE27CA	P6KE27A	23.10	25.70	28.40	1	1	16.3	37.5
P6KE30CA	P6KE30A	25.60	28.50	31.50	1	1	14.7	41.4
P6KE33CA	P6KE33A	28.20	31.40	34.70	1	1	13.3	45.7
P6KE36CA	P6KE36A	30.80	34.20	37.80	1	1	12.2	49.9
P6KE39CA	P6KE39A	33.30	37.10	41.00	1	1	11.3	53.9
P6KE43CA	P6KE43A	36.80	40.90	45.20	1	1	10.3	59.3
P6KE47CA	P6KE47A	40.20	44.70	49.40	1	1	9.4	64.8
P6KE51CA	P6KE51A	43.60	48.5	53.60	1	1	8.7	70.1
P6KE56CA	P6KE56A	47.80	53.20	58.80	1	1	7.9	77.0
P6KE62CA	P6KE62A	53.00	58.90	65.10	1	1	7.2	85.0
P6KE68CA	P6KE68A	58.10	64.60	71.40	1	1	6.6	92.0
P6KE75CA	P6KE75A	64.10	71.30	78.80	1	1	5.9	103.0
P6KE82CA	P6KE82A	70.10	77.90	86.10	1	1	5.4	113.0
P6KE91CA	P6KE91A	77.80	86.50	95.50	1	1	4.9	125.0
P6KE100CA	P6KE100A	85.50	95.00	105.00	1	1	4.5	137.0
P6KE110CA	P6KE110A	94.00	105.00	116.00	1	1	4.0	152.0
P6KE120CA	P6KE120A	102.00	114.00	126.00	1	1	3.7	165.0

TVS

P6KE Series 600W (DO-15)

Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_T		Test Current I_T (mA)	Maximum Reverse Leakage $I_R@V_R$ (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage $V_C@I_{pp}$ (V)
			Min .V	Max.V				
P6KE130CA	P6KE130A	111.00	124.00	137.00	1	1	3.4	179.0
P6KE150CA	P6KE150A	128.00	143.00	158.00	1	1	2.9	207.0
P6KE160CA	P6KE160A	136.00	152.00	168.00	1	1	2.8	219.0
P6KE170CA	P6KE170A	145.00	162.00	179.00	1	1	2.6	234.0
P6KE180CA	P6KE180A	154.00	171.00	189.00	1	1	2.5	246.0
P6KE200CA	P6KE200A	171.00	190.00	210.00	1	1	2.2	274.0
P6KE220CA	P6KE220A	185.00	209.00	231.00	1	1	1.9	328.0
P6KE250CA	P6KE250A	214.00	237.00	263.00	1	1	1.8	344.0
P6KE300CA	P6KE300A	256.00	285.00	315.00	1	1	1.5	414.0
P6KE350CA	P6KE350A	300.00	332.00	368.00	1	1	1.3	482.0
P6KE400CA	P6KE400A	342.00	380.00	420.00	1	1	1.1	548.0
P6KE440CA	P6KE440A	376.00	418.00	462.00	1	1	1.0	602.0
P6KE480CA	P6KE480A	408.00	456.00	504.00	1	1	0.9	658.0
P6KE510CA	P6KE510A	434.00	485.00	535.00	1	1	0.9	698.0
P6KE530CA	P6KE530A	450.00	503.00	556.00	1	1	0.8	725.0
P6KE540CA	P6KE540A	459.00	513.00	567.00	1	1	0.8	740.0
P6KE550CA	P6KE550A	467.00	522.50	577.50	1	1	0.8	760.0
P6KE600CA	P6KE600A	512.00	570.00	630.00	1	1	0.75	828.0

PACKAGE OUTLINE DIMENSIONS in inches (millimeters) DO-15



DO-204AC(DO-15)



1.5KE Series 1500W (Do-201)



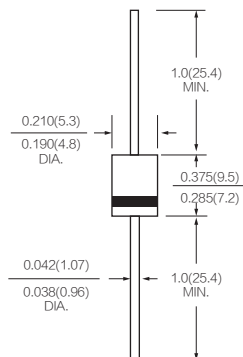
Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} : (Volts)@ I_T		Test Current I_T (mA)	Maximum Reverse Leakage I_R @ V_R (μ A)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Clamping Voltage V_C @ I_{PP} (V)
			Min .V	Max.V				
1.5KE6.8CA	1.5KE6.8A	5.80	6.45	7.14	10	600	144.8	10.5
1.5KE7.5CA	1.5KE7.5A	6.40	7.13	7.88	10	400	134.5	11.3
1.5KE8.2CA	1.5KE8.2A	7.02	7.79	8.61	10	200	125.6	12.1
1.5KE9.1CA	1.5KE9.1A	7.78	8.65	9.50	1	50	113.4	13.4
1.5KE10CA	1.5KE10A	8.55	9.50	10.50	1	10	104.8	14.5
1.5KE11CA	1.5KE11A	9.40	10.50	11.60	1	5	97.4	15.6
1.5KE12CA	1.5KE12A	10.20	11.40	12.60	1	5	91.0	16.7
1.5KE13CA	1.5KE13A	11.10	12.40	13.70	1	1	83.5	18.2
1.5KE15CA	1.5KE15A	12.80	14.30	15.80	1	1	71.7	21.2
1.5KE16CA	1.5KE16A	13.60	15.20	16.80	1	1	67.6	22.5
1.5KE18CA	1.5KE18A	15.30	17.10	18.90	1	1	60.3	25.2
1.5KE20CA	1.5KE20A	17.10	19.00	21.00	1	1	54.9	27.7
1.5KE22CA	1.5KE22A	18.80	20.90	23.10	1	1	49.7	30.6
1.5KE24CA	1.5KE24A	20.50	22.80	25.20	1	1	45.8	33.2
1.5KE27CA	1.5KE27A	23.10	25.70	28.40	1	1	40.5	37.5
1.5KE30CA	1.5KE30A	25.60	28.50	31.50	1	1	36.7	41.4
1.5KE33CA	1.5KE33A	28.20	31.40	34.70	1	1	33.3	45.7
1.5KE36CA	1.5KE36A	30.80	34.20	37.80	1	1	30.5	49.9
1.5KE39CA	1.5KE39A	33.30	37.10	41.00	1	1	28.2	53.9
1.5KE43CA	1.5KE43A	36.80	40.90	45.20	1	1	25.6	59.3
1.5KE47CA	1.5KE47A	40.20	44.70	49.40	1	1	23.5	64.8
1.5KE51CA	1.5KE51A	43.60	48.50	53.60	1	1	21.7	70.1
1.5KE56CA	1.5KE56A	47.80	53.20	58.80	1	1	19.7	77.0
1.5KE62CA	1.5KE62A	53.00	58.90	65.10	1	1	17.9	85.0
1.5KE68CA	1.5KE68A	58.10	64.60	71.40	1	1	16.5	92.0
1.5KE75CA	1.5KE75A	64.10	71.30	78.80	1	1	14.8	103.0
1.5KE82CA	1.5KE82A	70.10	77.90	86.10	1	1	13.5	113.0
1.5KE91CA	1.5KE91A	77.80	86.50	95.50	1	1	12.2	125.0
1.5KE100CA	1.5KE100A	85.50	95.00	105.00	1	1	11.1	137.0
1.5KE110CA	1.5KE110A	94.00	105.00	116.00	1	1	10.0	152.0
1.5KE120CA	1.5KE120A	102.00	114.00	126.00	1	1	9.2	165.0

TVS

1.5KE Series 1500W (Do-201)

Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_T		Test Current I_T (mA)	Maximum Reverse Leakage $I_R@V_R$ (μ A)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)
			Min. V	Max. V				
1.5KE130CA	1.5KE130A	111.00	124.00	137.00	1	1	8.5	179.0
1.5KE150CA	1.5KE150A	128.00	143.00	158.00	1	1	7.3	207.0
1.5KE160CA	1.5KE160A	136.00	152.00	168.00	1	1	6.9	219.0
1.5KE170CA	1.5KE170A	145.00	162.00	179.00	1	1	6.5	234.0
1.5KE180CA	1.5KE180A	154.00	171.00	189.00	1	1	6.2	246.0
1.5KE200CA	1.5KE200A	171.00	190.00	210.00	1	1	5.5	274.0
1.5KE220CA	1.5KE220A	185.00	209.00	231.00	1	1	4.6	328.0
1.5KE250CA	1.5KE250A	214.00	237.00	263.00	1	1	4.4	344.0
1.5KE300CA	1.5KE300A	256.00	285.00	315.00	1	1	3.7	414.0
1.5KE350CA	1.5KE350A	300.00	332.00	368.00	1	1	3.2	482.0
1.5KE400CA	1.5KE400A	342.00	380.00	420.00	1	1	2.8	548.0
1.5KE440CA	1.5KE440A	376.00	418.00	462.00	1	1	2.5	602.0
1.5KE480CA	1.5KE480A	408.00	456.00	504.00	1	1	2.3	658.0
1.5KE510CA	1.5KE510A	434.00	485.00	535.00	1	1	2.1	698.0
1.5KE530CA	1.5KE530A	450.00	503.00	556.00	1	1	2.1	725
1.5KE540CA	1.5KE540A	459.00	513.00	567.00	1	1	2.0	740.0
1.5KE550CA	1.5KE550A	467.00	522.50	577.50	1	1	2.0	760.0

PACKAGE OUTLINE DIMENSIONS in inches (millimeters) DO-201





3KP Series 3000W (P-600)



Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_T		Test Current I_T (mA)	Maximum Reverse Leakage I_R @ V_R (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage V_C @ I_{pp} (V)
			Min .V	Max.V				
3KP5.0CA	3KP5.0A	5.00	6.40	7.00	50	800	326.1	9.2
3KP6.0CA	3KP6.0A	6.00	6.67	7.37	50	800	291.3	10.3
3KP6.5CA	3KP6.5A	6.50	7.22	7.98	50	500	267.9	11.2
3KP7.0CA	3KP7.0A	7.00	7.78	8.60	50	200	250.0	12.0
3KP7.5CA	3KP7.5A	7.50	8.33	9.21	5	100	232.6	12.9
3KP8.0CA	3KP8.0A	8.00	8.99	10.23	5	50	220.6	13.6
3KP8.5CA	3KP8.5A	8.50	9.44	10.40	5	20	208.3	14.4
3KP9.0CA	3KP9.0A	9.00	10.00	11.1	5	10	194.8	15.4
3KP10CA	3KP10A	10.0	11.10	12.30	5	5	176.5	17.0
3KP11CA	3KP11A	11.0	12.20	13.50	5	2	164.8	18.2
3KP12CA	3KP12A	12.0	13.30	14.70	5	2	150.8	19.9
3KP13CA	3KP13A	13.0	14.40	15.90	5	2	139.5	21.5
3KP14CA	3KP14A	14.0	15.60	17.20	5	2	129.3	23.2
3KP15CA	3KP15A	15.0	16.70	18.50	5	2	123.0	24.4
3KP16CA	3KP16A	16.0	17.80	19.70	5	2	115.4	26.0
3KP17CA	3KP17A	17.0	18.90	20.90	5	2	108.7	27.6
3KP18CA	3KP18A	18.0	20.00	22.10	5	2	102.7	29.2
3KP20CA	3KP20A	20.0	22.20	24.50	5	2	92.6	32.4
3KP22CA	3KP22A	22.0	24.40	26.90	5	2	84.5	35.5
3KP24CA	3KP24A	24.0	26.70	29.50	5	2	77.1	38.9
3KP26CA	3KP26A	26.0	28.90	31.90	5	2	71.3	42.1
3KP28CA	3KP28A	28.0	31.10	34.40	5	2	66.1	45.4
3KP30CA	3KP30A	30.0	33.30	36.80	5	2	62.0	48.4
3KP33CA	3KP33A	33.0	36.70	40.60	5	2	53.3	56.3
3KP36CA	3KP36A	36.0	40.00	44.20	5	2	51.6	58.1

TVS

3KP Series 3000W (P-600)

Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_T		Test Current I_T (mA)	Maximum Reverse Leakage I_R @ V_R (μ A)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Clamping Voltage V_C @ I_{PP} (V)
			Min .V	Max.V				
3KP40CA	3KP40A	40.0	44.40	49.10	5	2	46.5	64.5
3KP43CA	3KP43A	43.0	47.80	52.80	5	2	43.2	69.4
3KP45CA	3KP45A	45.0	50.00	55.30	5	2	41.3	72.7
3KP48CA	3KP48A	48.0	53.30	58.90	5	2	38.8	77.4
3KP51CA	3KP51A	51.0	56.70	62.70	5	2	36.4	82.4
3KP54CA	3KP54A	54.0	60.00	66.30	5	2	34.4	87.1
3KP58CA	3KP58A	58.0	64.40	71.20	5	2	32.1	93.6
3KP60CA	3KP60A	60.0	66.70	73.70	5	2	31.0	96.8
3KP64CA	3KP64A	64.0	71.10	78.60	5	2	29.1	103.0
3KP70CA	3KP70A	70.0	77.80	86.00	5	2	26.5	113.0
3KP75CA	3KP75A	75.0	83.30	92.10	5	2	24.8	121.0
3KP78CA	3KP78A	78.0	86.70	95.80	5	2	23.8	126.0
3KP85CA	3KP85A	85.0	94.40	104.00	5	2	21.9	137.0
3KP90CA	3KP90A	90.0	100.00	111.00	5	2	20.5	146.0
3KP100CA	3KP100A	100.0	111.00	123.00	5	2	18.5	162.0
3KP110CA	3KP110A	110.0	122.00	135.00	5	2	16.9	177.0
3KP120CA	3KP120A	120.0	133.00	147.00	5	2	15.5	193.0
3KP130CA	3KP130A	130.0	144.00	159.00	5	2	14.4	209.0
3KP150CA	3KP150A	150.0	167.00	185.00	5	2	12.3	243.0
3KP160CA	3KP160A	160.0	178.00	197.00	5	2	11.6	259.0
3KP170CA	3KP170A	170.0	189.00	209.00	5	2	10.9	275.0
3KP180CA	3KP180A	180.0	200.00	221.00	5	2	10.4	289.0
3KP190CA	3KP190A	190.0	211.00	233.00	5	2	9.7	310.0
3KP200CA	3KP200A	200.0	222.00	246.00	5	2	9.1	329.2
3KP210CA	3KP210A	210.0	233.00	258.00	5	2	8.6	349.5
3KP220CA	3KP220A	220.0	244.00	270.00	5	2	8.1	371.1



5KP Series 5000W (P-600)



Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_r		Test Current I_r (mA)	Maximum Reverse Leakage $I_R @ V_R$ (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage $V_C @ I_{pp}$ (V)
			Min .V	Max.V				
5KP5.0CA	5KP5.0A	5.00	6.40	7.00	50	5000	554.3	9.2
5KP6.0CA	5KP6.0A	6.00	6.67	7.37	50	5000	495.1	10.3
5KP6.5CA	5KP6.5A	6.50	7.22	7.98	50	2000	455.4	11.2
5KP7.0CA	5KP7.0A	7.00	7.78	8.60	50	1000	425.0	12.0
5KP7.5CA	5KP7.5A	7.50	8.33	9.21	5	250	395.3	12.9
5KP8.0CA	5KP8.0A	8.00	8.99	10.23	5	150	375.0	13.6
5KP8.5CA	5KP8.5A	8.50	9.44	10.40	5	500	354.2	14.4
5KP9.0CA	5KP9.0A	9.00	10.00	11.1.	5	20	331.2	15.4
5KP10CA	5KP10A	10.0	11.10	12.30	5	15	300.0	17.0
5KP11CA	5KP11A	11.0	12.20	13.50	5	2	280.2	18.2
5KP12CA	5KP12A	12.0	13.30	14.70	5	2	256.3	19.9
5KP13CA	5KP13A	13.0	14.40	15.90	5	2	237.2	21.5
5KP14CA	5KP14A	14.0	15.60	17.20	5	2	219.8	23.2
5KP15CA	5KP15A	15.0	16.70	18.50	5	2	209.0	24.4
5KP16CA	5KP16A	16.0	17.80	19.70	5	2	196.2	26.0
5KP17CA	5KP17A	17.0	18.90	20.90	5	2	184.8	27.6
5KP18CA	5KP18A	18.0	20.00	22.10	5	2	174.7	29.2
5KP20CA	5KP20A	20.0	22.20	24.50	5	2	157.4	32.4
5KP22CA	5KP22A	22.0	24.40	26.90	5	2	143.7	35.5
5KP24CA	5KP24A	24.0	26.70	29.50	5	2	131.1	38.9
5KP26CA	5KP26A	26.0	28.90	31.90	5	2	121.1	42.1
5KP28CA	5KP28A	28.0	31.10	34.40	5	2	112.3	45.4
5KP30CA	5KP30A	30.0	33.30	36.80	5	2	105.4	48.4

TVS

5KP Series 5000W (P-600)

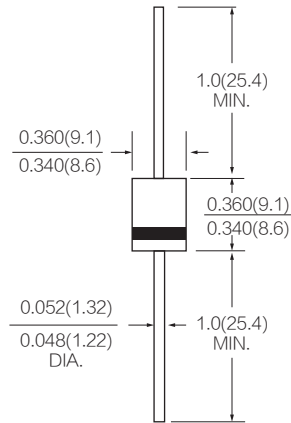
Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_r		Test Current I_r (mA)	Maximum Reverse Leakage $I_R@V_R$ (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage $V_C@I_{pp}$ (V)
			Min .V	Max.V				
5KP33CA	5KP33A	33.0	36.70	40.60	5	2	95.7	56.3
5KP36CA	5KP36A	36.0	40.00	44.20	5	2	87.8	58.1
5KP40CA	5KP40A	40.0	44.40	49.10	5	2	79.1	64.5
5KP43CA	5KP43A	43.0	47.80	52.80	5	2	73.5	69.4
5KP45CA	5KP45A	45.0	50.00	55.30	5	2	70.2	72.7
5KP48CA	5KP48A	48.0	53.30	58.90	5	2	65.9	77.4
5KP51CA	5KP51A	51.0	56.70	62.70	5	2	61.9	82.4
5KP54CA	5KP54A	54.0	60.00	66.30	5	2	58.6	87.1
5KP58CA	5KP58A	58.0	64.40	71.20	5	2	54.5	93.6
5KP60CA	5KP60A	60.0	66.70	73.70	5	2	52.7	96.8
5KP64CA	5KP64A	64.0	71.10	78.60	5	2	49.5	103.0
5KP70CA	5KP70A	70.0	77.80	86.00	5	2	45.1	113.0
5KP75CA	5KP75A	75.0	83.30	92.10	5	2	42.1	121.0
5KP78CA	5KP78A	78.0	86.70	95.80	5	2	40.5	126.0
5KP85CA	5KP85A	85.0	94.40	104.00	5	2	37.2	137.0
5KP90CA	5KP90A	90.0	100.00	111.00	5	2	34.9	146.0
5KP100CA	5KP100A	100.0	111.00	123.00	5	2	31.5	162.0
5KP110CA	5KP110A	110.0	122.00	135.00	5	2	28.8	177.0
5KP120CA	5KP120A	120.0	133.00	147.00	5	2	26.4	193.0
5KP130CA	5KP130A	130.0	144.00	159.00	5	2	24.4	209.0
5KP150CA	5KP150A	150.0	167.00	185.00	5	2	21.0	243.0
5KP160CA	5KP160A	160.0	178.00	197.00	5	2	19.7	259.0
5KP170CA	5KP170A	170.0	189.00	209.00	5	2	18.5	275.0
5KP180CA	5KP180A	180.0	200.00	221.00	5	2	17.5	289.0



5KP Series 5000W (P-600)

Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_T		Test Current I_T (mA)	Maximum Reverse Leakage I_R @ V_R (μ A)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Clamping Voltage V_C @ I_{PP} (V)
			Min .V	Max.V				
5KP190CA	5KP190A	190.0	211.00	233.00	5	2	16.5	310.0
5KP200CA	5KP200A	200.0	222.00	246.00	5	2	15.5	329.2
5KP210CA	5KP210A	210.0	233.00	258.00	5	2	14.6	349.5
5KP220CA	5KP220A	220.0	244.00	270.00	5	2	13.7	371.1
5KP250CA	5KP250A	250.0	277.00	306.00	5	2	12.0	425.0

PACKAGE OUTLINE DIMENSIONS in inches (millimeters) P600



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15KP Series 15000W (P-600)



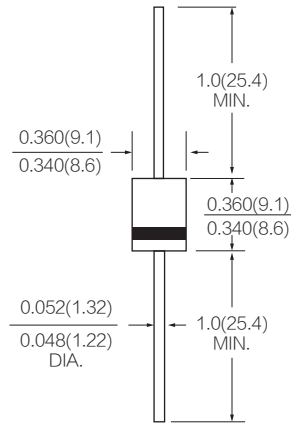
Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_T		Test Current I_T (mA)	Maximum Reverse Leakage I_R @ V_R (μ A)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Clamping Voltage V_C @ I_{PP} (V)
			Min .V	Max.V				
15KP17CA	15KP17A	17.0	18.88	20.80	50	5000	515.4	29.3
15KP18CA	15KP18A	18.0	20.00	22.20	50	5000	488.7	30.9
15KP20CA	15KP20A	20.0	22.20	24.60	20	1500	440.2	34.3
15KP22CA	15KP22A	22.0	24.40	27.00	10	500	407.0	37.1
15KP24CA	15KP24A	24.0	26.60	29.40	5	150	371.0	40.7
15KP26CA	15KP26A	26.0	28.80	31.80	5	50	343.2	44.0
15KP28CA	15KP28A	28.0	31.10	34.40	5	25	317.9	47.5
15KP30CA	15KP30A	30.0	33.30	36.90	5	15	297.8	50.7
15KP33CA	15KP33A	33.0	36.60	40.50	5	2	276.1	54.7
15KP36CA	15KP36A	36.0	39.90	44.10	5	2	252.5	59.8
15KP40CA	15KP40A	40.0	44.40	49.10	5	2	229.5	65.8
15KP43CA	15KP43A	43.0	47.80	52.80	5	2	216.3	69.8
15KP45CA	15KP45A	45.0	50.10	55.50	5	2	207.4	72.8
15KP48CA	15KP48A	48.0	53.40	59.10	5	2	194.3	77.7
15KP51CA	15KP51A	51.0	56.70	62.70	5	2	182.1	82.9
15KP54CA	15KP54A	54.0	60.00	66.30	5	2	172.2	87.7
15KP58CA	15KP58A	58.0	64.40	71.20	5	2	161.0	93.8
15KP60CA	15KP60A	60.0	66.60	73.50	5	2	155.0	97.4
15KP64CA	15KP64A	64.0	71.10	78.60	5	2	144.9	104.2
15KP70CA	15KP70A	70.0	77.80	86.00	5	2	132.9	113.6
15KP75CA	15KP75A	75.0	83.30	92.10	5	2	123.8	122.0
15KP78CA	15KP78A	78.0	86.70	95.70	5	2	119.7	126.1
15KP85CA	15KP85A	85.0	94.40	104.0	5	2	109.7	137.6
15KP90CA	15KP90A	90.0	99.90	110.4	5	2	103.7	145.6
15KP100CA	15KP100A	100.0	111.0	123.0	5	2	93.6	161.3
15KP110CA	15KP110A	110.0	122.0	135.0	5	2	84.5	178.6
15KP120CA	15KP120A	120.0	133.2	147.3	5	2	78.5	192.3
15KP130CA	15KP130A	130.0	144.0	159.0	5	2	72.5	208.3



15KP Series 15000W (P-600)

Part Number (Bi)	Part Number (Uni)	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_r		Test Current I_r (mA)	Maximum Reverse Leakage I_R @ V_R (μ A)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Clamping Voltage V_C @ I_{pp} (V)
			Min .V	Max.V				
15KP150CA	15KP150A	150.0	167.0	185.0	5	2	62.4	241.9
15KP160CA	15KP160A	160.0	178.0	197.0	5	2	58.4	258.6
15KP170CA	15KP170A	170.0	189.0	209.0	5	2	55.4	272.7
15KP180CA	15KP180A	180.0	200.1	221.0	5	2	52.3	288.5
15KP200CA	15KP200A	200.0	222.0	247.0	5	2	47.3	319.1
15KP220CA	15KP220A	220.0	244.0	272.0	5	2	35.2	352.5
15KP240CA	15KP240A	240.0	267.4	293.9	5	2	39.3	384.6
15KP260CA	15KP260A	260.0	289.6	318.2	5	2	36.2	416.7
15KP280CA	15KP280A	280.0	312.1	342.5	5	2	33.2	454.5

PACKAGE OUTLINE DIMENSIONS in inches (millimeters) P600



TVS