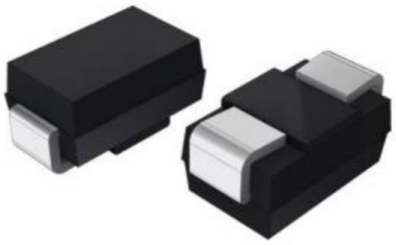
Transient Voltage Suppressor Diode
Surface Mount

multicomp PRO

RoHS Compliant



Description

This series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

Application

TVS devices are ideal for the protection of I/O Interfaces,Vcc bus and other vulnerable circuits used in telecom, computer, industrial and consumer electronic applications.

Features

- For surface mounted applications
- Low profile package
- 600W Peak pulse power capability at 10/1000μs waveform
- Excellent clamping capability
- Typical IR less than 1μA when VBR min>12V
- Fast response time: typically less than 1.0ps from 0 Volts to VBR min
- High temperature soldering: 260°C / 10s
- IEC 61000-4-2 (ESD) :±30kV (Contact) / ±30kV (Air)
- Reverse Breakdown Voltage - 6.8V to 440V
- Case: SMB (DO-214AA) package
- By cathode band denotes uni-directional device, nonecathode band denotes bi-directional device
- UL flammability classification rating 94V-0
- Weight: 0.1 grams

Maximum Ratings (@Ta = +25°C, unless otherwise specified.)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at TA=25°C by 10/1000μs Waveform (Note 1)	P_{PP}	600	W
Power Dissipation on Infinite Heat Sink at T_L=50°C	$P_{M(AV)}$	5	
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 2)	I_{FSM}	80	A
Maximum Instantaneous Forward Voltage at 50A (Note 2)	V_F	5	V
Operating Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}		

Note:

1. Non-repetitive current pulse, per Fig.4 and derated above Tj (initial) = 25°C per Fig.1
2. For unidirectional units only

Electrical Characteristics (@TA = 25°C, unless otherwise specified.)

Part Number		Marking Code		Reverse Working Voltage	Reverse Breakdown Voltage V_B (V)			Reverse Leakage (Max)	Reverse Clamping Voltage (Max)	Peak Pulse Current (Max)
Uni.	Bi.	Uni.	Bi.	V_{RWM} (V)	Min.	Max.	@ I_T(mA)	I_R(μA)@V_R	Vc(V)@I_{PP}	I_{PP}(A)
SMBJ12A	-	SMBJ12A	-	12	13.3	14.7	1	1	19.9	30.2
SMBJ13A	-	SMBJ13A	-	13	14.4	15.9	1	1	21.5	27.9
SMBJ16A	-	SMBJ16A	-	16	17.8	19.7	1	1	26	23.1
SMBJ26A	SMBJ26CA	SMBJ26A	SMBJ26CA	26	28.9	31.9	1	1	42.1	14.3
SMBJ28A	-	SMBJ28A	-	28	31.1	34.4	1	1	45.4	13.2

Note:

1. Suffix “A” denotes 5% tolerance device.
2. Add suffix “CA” after part number to specify bi-directional devices.
3. The IR limit is double for bi-directional devices.

Rating and Characteristic Curves

FIG.1 - Peak Pulse Power Derating Curve

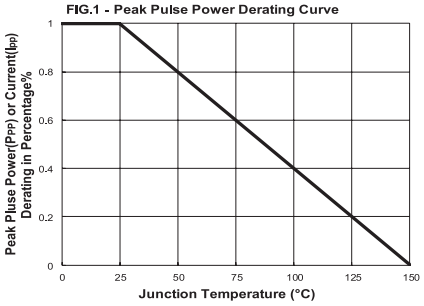


FIG.2 - Steady State Power Derating Curve

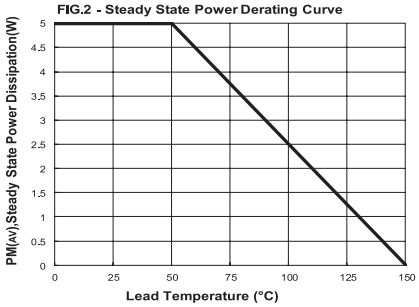


FIG.3 - Maximun Non-Repetitive Forward Surge Current Uni-Directional Only

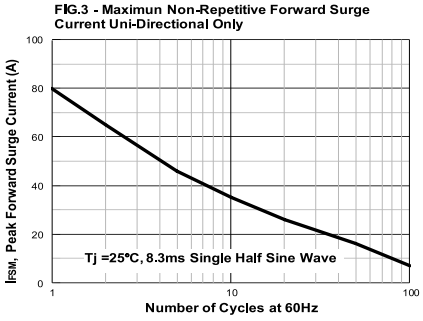


FIG.4 - Pulse Waveform

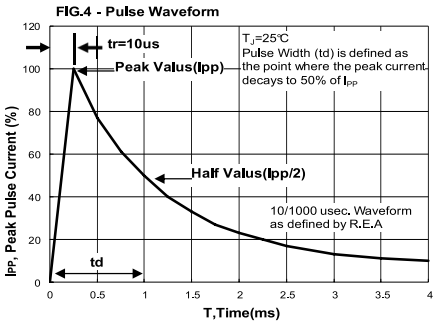


FIG.5 - Typical Junction Capacitance

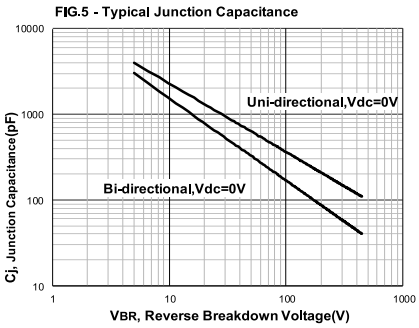
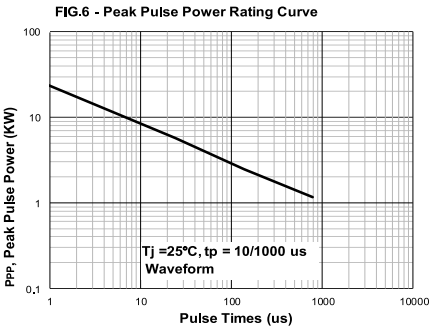
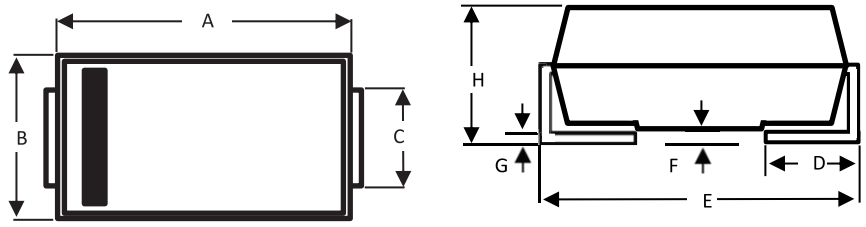


FIG.6 - Peak Pulse Power Rating Curve



Transient Voltage Suppressor Diode
Surface Mount

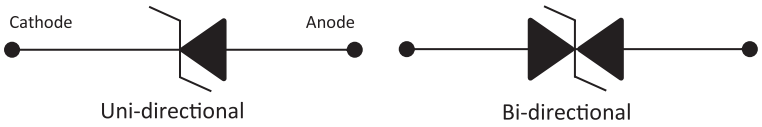
Diagram



SMB (DO-214AA) package

Dim.	Min.	Max
A	4.22	4.7
B	3.4	3.94
C	1.9	2.1
D	1.95	2.6
E	1.95	2.34
F	-	0.23
G	0.9	1.42
H	5.21	5.59

Device Schematic



Part Number Table

Description	Part Number
TVS Diode, Unidirectional, 600W, 19.9V, 30.2A, SMB	SMBJ12A
TVS Diode, Unidirectional, 600W, 21.5V, 27.9A, SMB	SMBJ13A
TVS Diode, Unidirectional, 600W, 26V, 23.1A, SMB	SMBJ16A
TVS Diode, Unidirectional, 600W, 42.1V, 14.3A, SMB	SMBJ26A
TVS Diode, Bidirectional, 600W, 19.9V, 30.2A, SMB	SMBJ26CA
TVS Diode, Unidirectional, 600W, 45.4V, 13.2A, SMB	SMBJ28A

Dimensions : Millimetres

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