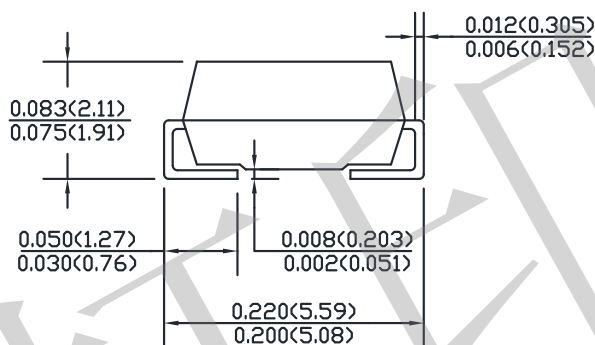
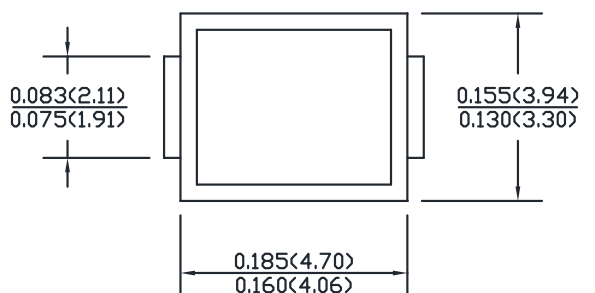




Transient Voltage Suppressor

Breakdown Voltage 3.3 to 30 Volts

CASE: SMB (DO214AA)



Dimensions in inches and (millimeters)

Features

- Extensive Voltages selection from 3.3 to 30V
- Silicon 5.0 Watt Zener Diodes
- Withstands surge stresses
- Ideal for high-density and low-profile mounting
- Regulates voltage over a broad operating current and temperature range
- High specified maximum current (I_{ZM}) when adequately heat sinking
- Minimal changes of voltage versus current as specified by voltage regulation (ΔV_Z)

Application

- Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFE, signal lines of sensor units for consumer, computer, industrial, automotive and telecommunication

Mechanical Data

- **Case:** Void-free transfer molded thermosetting epoxy body meeting UL94V-O
- **Terminals:** Tin-Lead or ROHS Compliant annealed matte-Tin plating readily solderable per MIL-STD-750, Method 2026
- **Marking:** Body marked with part number
- **Polarity:** Cathode indicated by band
- **Weight:** 0.093g (Approximately)

Maximum Ratings and Electrical Characteristics @ 25°C unless otherwise specified

Symbol	Conditions	Value	Unit
$P_{M(AV)}$	Steady state power at $T_L \leq 25^\circ\text{C}$ 0.375" (10mm) from body	5.0	W
	Steady state power at $T_A=25^\circ\text{C}$ when mounted on FR4 PC described for thermal resistance (also see Fig.1)	1.38	W
V_F	Maximum instantaneous forward voltage at 1.0A	1.2	V
$R_{\theta JL}$	Thermal resistance junction to lead	25	$^\circ\text{C/W}$
$R_{\theta JA}$	Thermal resistance junction to ambient	90	$^\circ\text{C/W}$
T_J, T_{STG}	Operating and Storage Temperature	-65 to +150	$^\circ\text{C}$

Electrical Characteristics @ 25°C (Unless Otherwise Noted)

Type Number	Regulator Voltage V_Z @ I_{ZT}	Test Current	Maximum Dynamic Impedance (A&B Suffix)	Maximum Knee Impedance Z_{ZK} @ 1.0mA (A,B,C,D Suffix)	Maximum Reverse Current I_R @ V_R	Test Voltage (Non-Suffix & A Suffix)	Test Voltage (B,C,D Suffix)	Maximum Regulator Current (B,C,D Suffix)	Maximum Surge Current (I_{ZSM})	Maximum Voltage Regulation (ΔV_Z) (A,B,C,D Suffix)
	V_Z (V)	I_{ZT} (mA)	Z_{ZT} (Ohms)	Z_{ZK} (Ohms)	I_R (μ A)	V_R (V)	V_R (V)	I_{ZM} (mA)	I_{ZSM} (A)	ΔV_Z (V)
SMBJ5333B	3.3	380	3.0	400	300	1.0	1.0	1440	20.0	0.85
SMBJ5334B	3.6	350	2.5	500	150	1.0	1.0	1320	18.7	0.80
SMBJ5335B	3.9	320	2.0	500	50	1.0	1.0	1220	17.6	0.54
SMBJ5336B	4.3	290	2.0	500	10	1.0	1.0	1100	16.4	0.49
SMBJ5337B	4.7	260	2.0	450	5.0	1.0	1.0	1010	15.3	0.44
SMBJ5338B	5.1	240	1.5	400	1.0	1.0	1.0	930	14.4	0.39
SMBJ5339B	5.6	220	1.0	400	1.0	2.0	2.0	865	13.4	0.25
SMBJ5340B	6.0	200	1.0	300	1.0	3.0	3.0	790	12.7	0.19
SMBJ5341B	6.2	200	1.0	200	1.0	3.0	3.0	765	12.4	0.10
SMBJ5342B	6.8	175	1.0	200	10	4.9	5.2	700	11.5	0.15
SMBJ5343B	7.5	175	1.5	200	10	5.4	5.7	630	10.7	0.15
SMBJ5344B	8.2	150	1.5	200	10	5.9	6.2	580	10.0	0.20
SMBJ5345B	8.7	150	2.0	200	10	6.25	6.6	545	9.5	0.20
SMBJ5346B	9.1	150	2.0	150	7.5	6.6	6.9	520	9.2	0.22
SMBJ5347B	10	125	2.0	125	5.0	7.2	7.6	475	8.6	0.22
SMBJ5348B	11	125	2.5	125	5.0	8.0	8.4	430	8.0	0.25
SMBJ5349B	12	100	2.5	125	2.0	8.6	9.1	395	7.5	0.25
SMBJ5350B	13	100	2.5	100	1.0	9.4	9.9	365	7.0	0.25
SMBJ5351B	14	100	2.5	75	1.0	10.1	10.6	340	6.7	0.25
SMBJ5352B	15	75	2.5	75	1.0	10.8	11.5	315	6.3	0.25
SMBJ5353B	16	75	2.5	75	1.0	11.5	12.2	295	6.0	0.30
SMBJ5354B	17	70	2.5	75	0.5	12.2	12.9	280	5.8	0.35
SMBJ5355B	18	65	2.5	75	0.5	13.0	13.7	264	5.5	0.40
SMBJ5356B	19	65	3.0	75	0.5	13.7	14.4	250	5.3	0.40
SMBJ5357B	20	65	3.0	75	0.5	14.4	15.2	237	5.1	0.40
SMBJ5358B	22	50	3.5	75	0.5	15.8	16.7	216	4.7	0.45
SMBJ5359B	24	50	3.5	100	0.5	17.3	18.2	198	4.4	0.55
SMBJ5360B	25	50	4.0	110	0.5	18.0	19.0	190	4.3	0.55
SMBJ5361B	27	50	5.0	120	0.5	19.4	20.6	176	4.1	0.60
SMBJ5362B	28	50	6.0	130	0.5	20.1	21.2	170	3.9	0.60
SMBJ5363B	30	40	8.0	140	0.5	21.6	22.8	158	3.7	0.60

Note:

1. Devices listed above with B suffix have $\pm 5\%$ tolerance, A suffix designates $\pm 10\%$ tolerance, C suffix designates $\pm 2\%$ tolerance, and D suffix designates $\pm 1\%$ tolerance. No suffix designates $\pm 20\%$.
2. Zener voltage (V_Z) is measured at $T_L=25^\circ\text{C}$ ($+8, -2^\circ\text{C}$). Voltage measurement to be performed at 40 ± 10 milliseconds after application of dc current.
3. The zener impedance is derived from 1 kHz ac voltage resulting from an ac current modulation having an rms value equal to 10% of the dc zener current (I_{ZT} or I_{ZK}) superimposed on I_{ZT} or I_{ZK} .
4. The maximum current (I_{ZM}) shown is for a $\pm 5\%$ tolerance devices. The I_{ZM} for other tolerances can be calculated using the formula: $I_{ZM}=P/V_{ZM}$ where V_{ZM} is the V_Z at the high end of the voltage tolerance specified and P is the rated power for the method of mounting.
5. The surge current (I_{ZSM}) is specified as the maximum peak of a non-recurrent half-sine wave of 8.3ms duration.
6. Voltage regulation (ΔV_Z) is the difference between the voltage measured at 10% and 50% of I_{ZM} .

Characteristic Curve

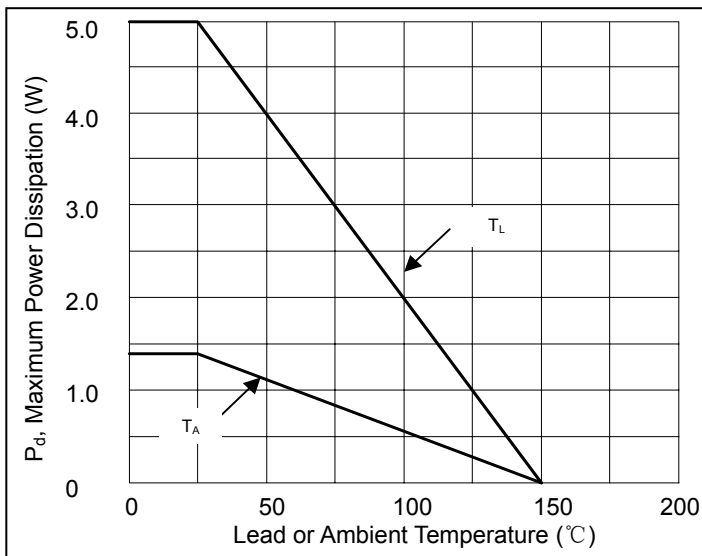


Fig.1 Power Derating Curve

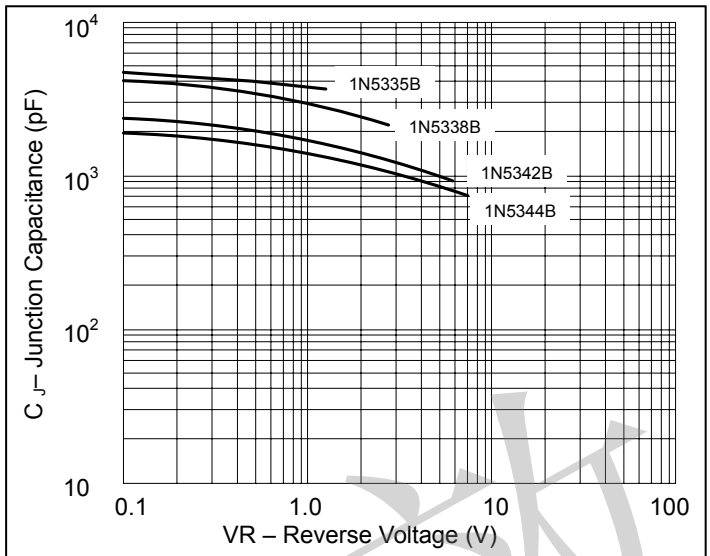


Fig.2 Capacitance vs. Voltage for Representative Types

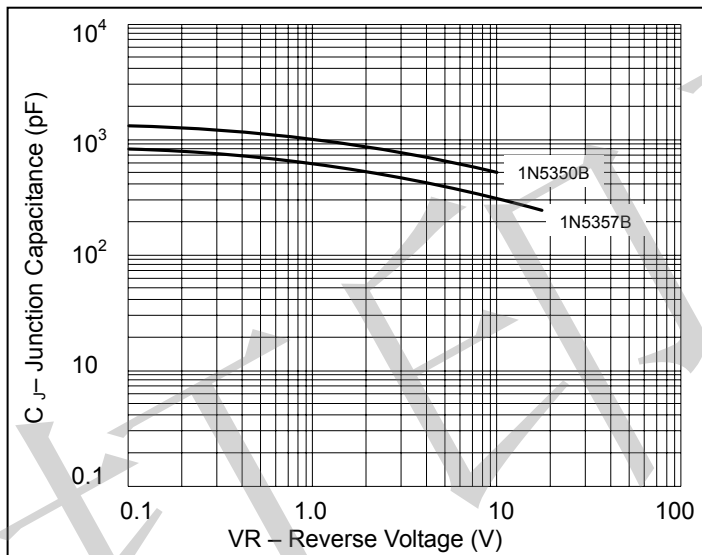


Fig.3 Capacitance vs. Voltage for Representative Types