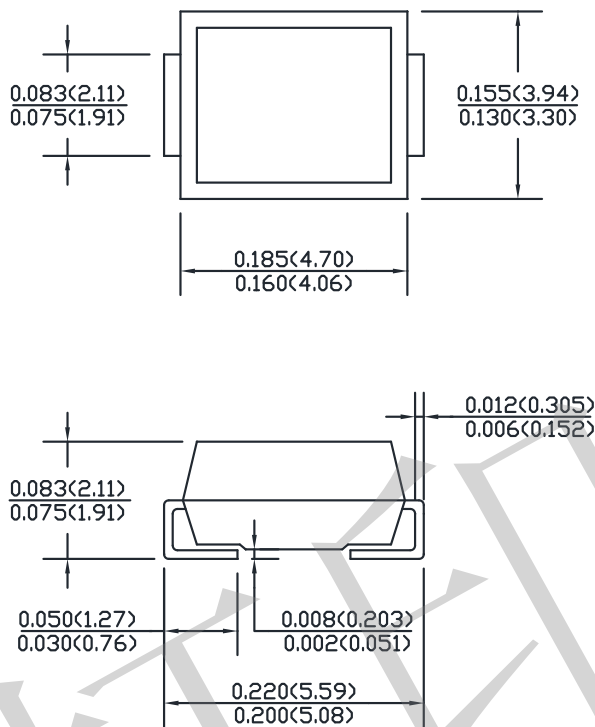




Transient Voltage Suppressor

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 3.0 Watt Zener Diodes
- Ideal for high-density and low-profile mounting
- Regulates voltage over a broad operating current and temperature range
- Flexible axial-lead mounting terminals
- High specified maximum current (I_{ZM}) when adequately heat sinking

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 $T_L \leq 105^\circ\text{C}$ 0.375" (10mm) from body	3.0	W
	Steady state power at $T_A=25^\circ\text{C}$ when mounted on FR4 PC described for thermal resistance (also see Fig.1)	1.56	W
V_F	Maximum instantaneous forward voltage at 200mA	1.2	V
$R_{\theta JL}$	Thermal resistance junction to lead	15	$^\circ\text{C/W}$
$R_{\theta JA}$	Thermal resistance junction to ambient	80	$^\circ\text{C/W}$
T_J, T_{STG}	Operating and Storage Temperature	-65 to +150	$^\circ\text{C}$

Electrical Characteristics @ 25°C (Unless Otherwise Noted)

JEDEC Type Number	Zener Voltage $V_Z @ I_{ZT}$	Test Current	Dynamic Impedance $Z_{ZT} @ I_{ZT}$	Knee Impedance $Z_{ZK} @ I_{ZK}$	Knee Current	Maximum Reverse Current $I_R @ V_R$		MAX. DC current
	V_Z (V)	I_{ZT} (mA)	Z_{ZT} (OHMS)	Z_{ZK} (OHMS)	I_{ZK} (mA)	I_R (μ A)	V_R (V)	I_{ZM} (mA)
HSMBJ5913	3.3	113.6	10.0	500	1.00	100	1.0	908
HSMBJ5914	3.6	104.2	9.0	500	1.00	75	1.0	832
HSMBJ5915	3.9	96.1	7.5	500	1.00	25	1.0	768
HSMBJ5916	4.3	87.2	6.0	500	1.00	5.0	1.0	696
HSMBJ5917	4.7	79.8	5.0	500	1.00	5.0	1.5	638
HSMBJ5918	5.1	73.5	4.0	350	1.00	5.0	2.0	588
HSMBJ5919	5.6	66.9	2.0	250	1.00	5.0	3.0	534
HSMBJ5920	6.2	60.5	2.0	200	1.00	5.0	4.0	482
HSMBJ5921	6.8	55.1	2.5	200	1.00	5.0	5.2	440
HSMBJ5922	7.5	50.0	3.0	400	0.50	5.0	6.0	400
HSMBJ5923	8.2	45.7	3.5	400	0.50	5.0	6.5	364
HSMBJ5924	9.1	41.2	4.0	500	0.50	5.0	7.0	328
HSMBJ5925	10.0	37.5	4.5	500	0.25	5.0	8.0	300
HSMBJ5926	11.0	34.1	5.5	550	0.25	1.0	8.4	272
HSMBJ5927	12.0	31.2	6.5	550	0.25	1.0	9.1	250
HSMBJ5928	13.0	28.8	7.0	550	0.25	1.0	9.9	230
HSMBJ5929	15.0	25.0	9.0	600	0.25	1.0	11.4	200
HSMBJ5930	16.0	23.4	10.0	600	0.25	1.0	12.2	183
HSMBJ5931	18.0	20.8	12.0	650	0.25	1.0	13.7	166
HSMBJ5932	20.0	18.7	14.0	650	0.25	1.0	15.2	150
HSMBJ5933	22.0	17.0	17.5	650	0.25	1.0	16.7	136
HSMBJ5934	24.0	15.6	19.0	700	0.25	1.0	18.2	124
HSMBJ5935	27.0	13.9	23.0	700	0.25	1.0	20.6	110
HSMBJ5936	30.0	12.5	28.0	750	0.25	1.0	22.8	100

Note:

1. No suffix indicates a $\pm 20\%$ tolerance on nominal V_Z . Suffix A denotes a $\pm 10\%$ tolerance, B denotes a $\pm 5\%$ tolerance, C denotes a $\pm 2\%$ tolerance, and D denotes a $\pm 10\%$ tolerance.
2. Zener voltage (V_Z) is measured at $T_L=30^\circ\text{C}$ and 90seconds after application of dc current.
3. The Zener impedance is derived from the 60HZ ac voltage, which results when an ac current modulation having an rms value equal to 10% of the dc zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK} .

Characteristic Curve

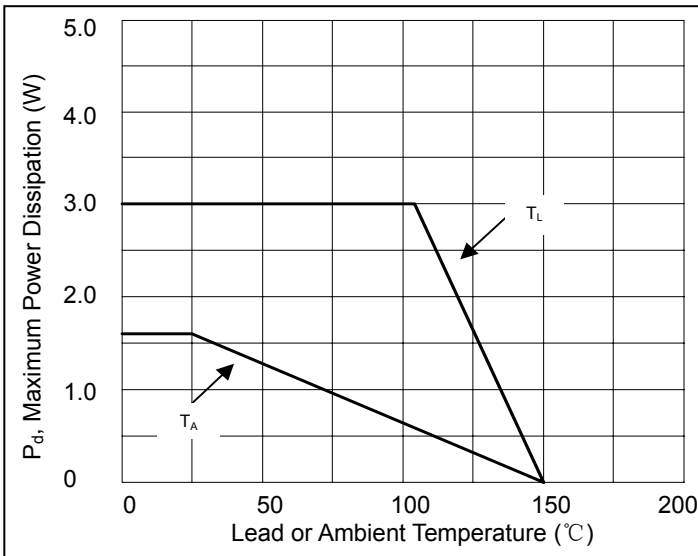


Fig.1 Power Derating Curve

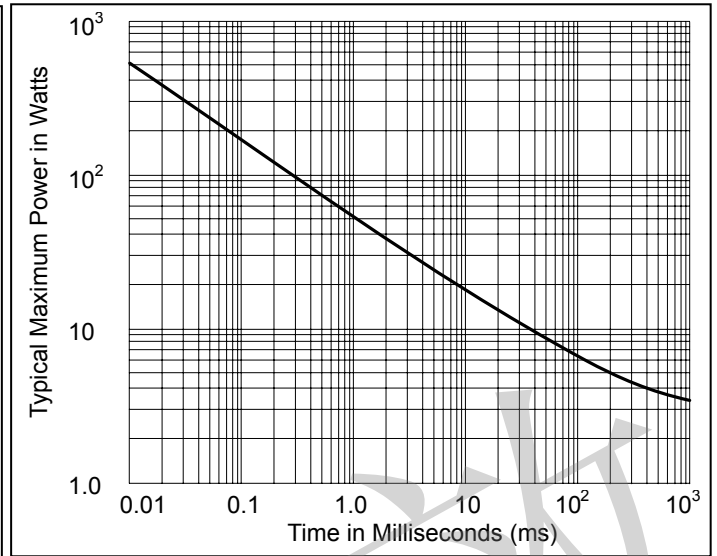


Fig.2 Transient Surge Capability Square-Wave Pulse Width (non-Repetitive) in milliseconds

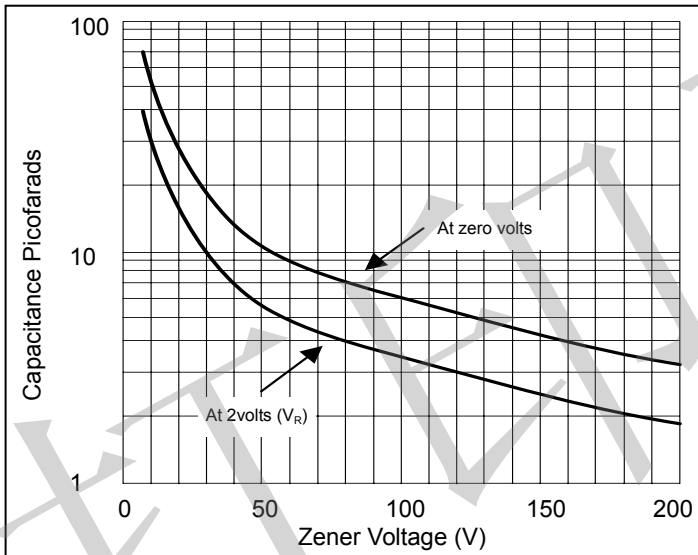


Fig.3 Capacitance vs. Zener Voltage