

Surface Mount Zener Diode

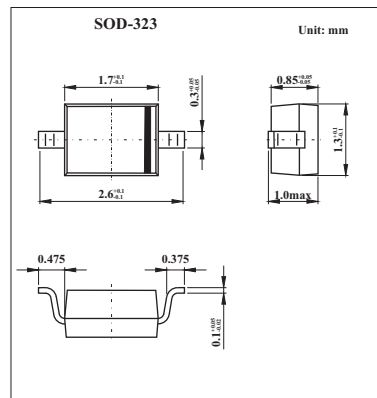
MM3Z33VS

Features

Planar Die Construction

Ultra-Small Surface Mount Package

Ideally Suited for Automated Assembly Processes



Absolute Maximum Ratings $T_a = 25^{\circ}\text{C}$

Parameter	Symbol	Rating	Unit
Power Dissipation (Note 1)	P_D	200	mW
Forward Voltage @ $I_F = 10\text{mA}$	V_F	0.9	V
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625	$^{\circ}\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +150	$^{\circ}\text{C}$

Note: 1.Part mounted on FR-4 PC board with recommended pad layout.

Electrical Characteristics @ $T_a=25^{\circ}\text{C}$ unless otherwise specified

Type Number	Zener Voltage Range (Note 2)				Maximum Zener Impedance (Note 3)			Maximum Reverse Current (Note 2)		Typical Temperature Coefficient @ I _{ZT} mV/°C	
	V _Z @ I _{ZT}			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R			
	Min (V)	Nom (V)	Max (V)	mA	Ω		mA	μA	V	Min	Max
MM3Z33VS	31	33	35	2	80	300	0.5	0.05	23.2	27.4	33.4

Notes: 2. Short duration test pulse used to minimize self-heating effect.

3. $f = 1\text{kHz}$.

Marking

Marking	2X
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■ Typical Characteristics

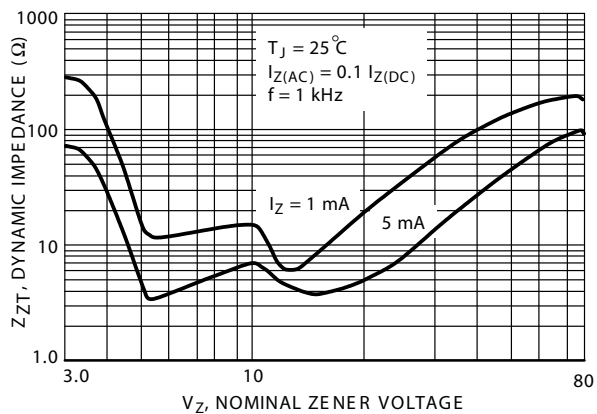


Fig.1 Effect of Zener Voltage on Zener Impedance

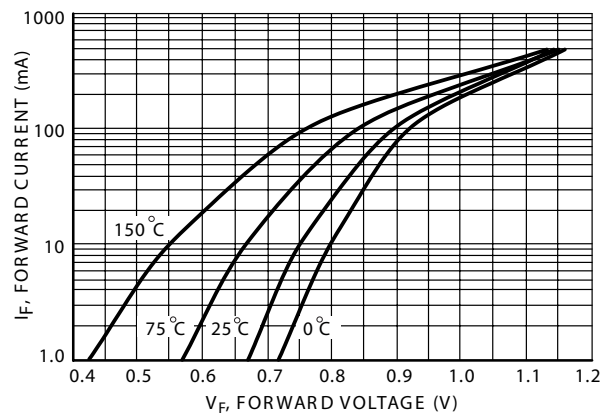


Fig.2 Typical Forward Voltage

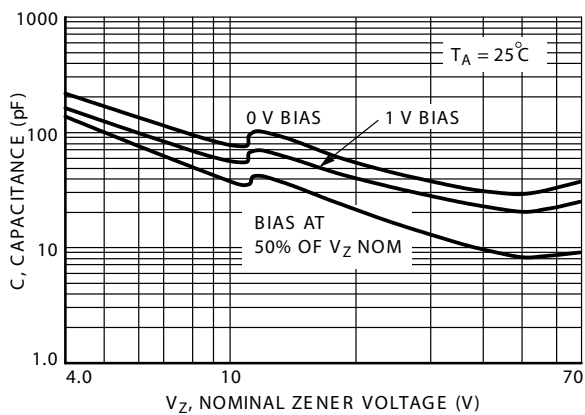


Fig.3 Typical Capacitance

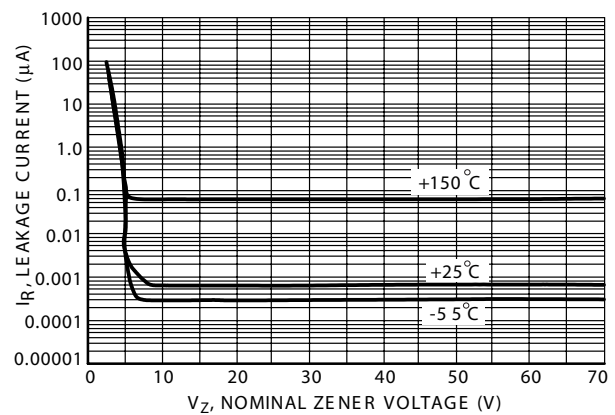


Fig.4 Typical Leakage Current

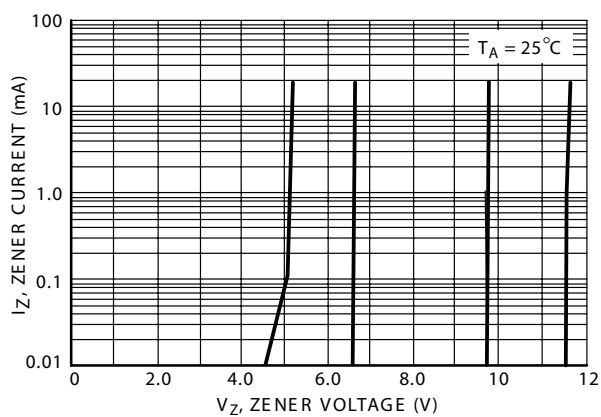
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Fig.5 Zener Voltage versus Zener Current
(V_Z Up to 12 V)

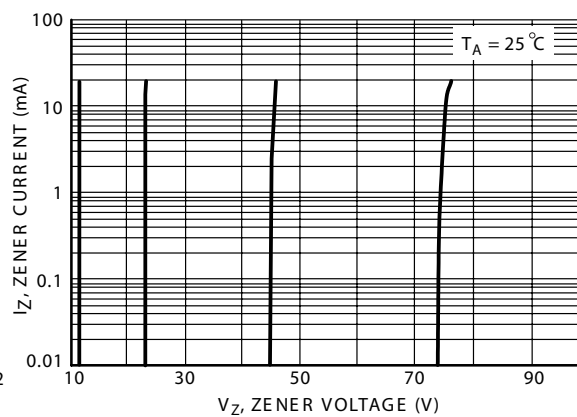
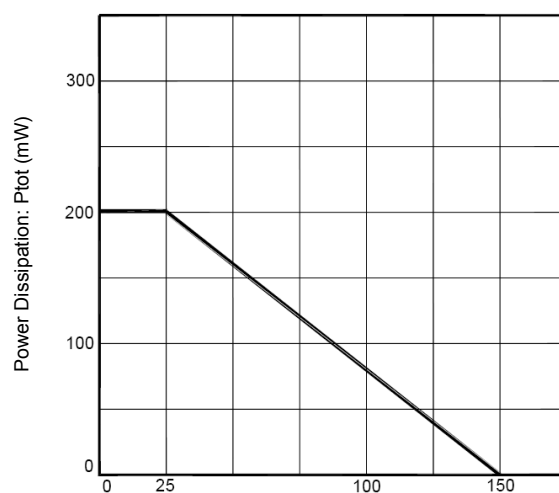


Fig.6 Zener Voltage versus Zener Current
(12 V to 75 V)



Ambient Temperature: T_a ($^\circ\text{C}$)

Derating Curve

Fig.7 Power Dissipation VS Ambient Temperature