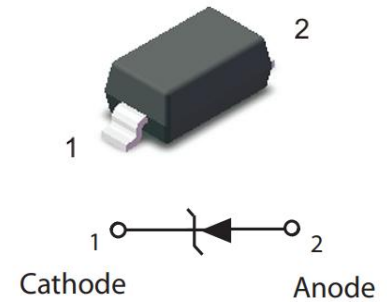


Features

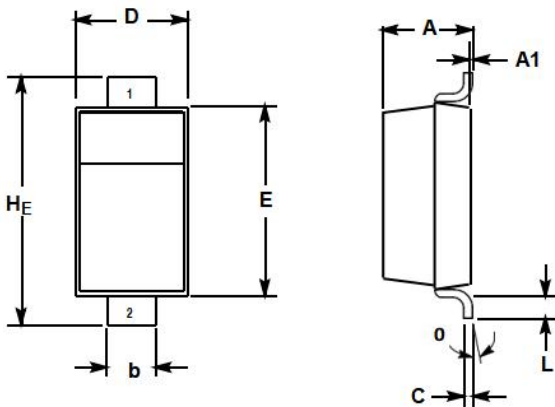
- ◆ For surface mounted applications
- ◆ Low Forward Voltage
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ Plastic package has underwriters laboratory flammability 94V-0



Application

- ◆ Polarity protection diodes
- ◆ Re-circulating diodes
- ◆ Switching diodes

Dimensions (SOD-123)



Ref.	Millimeters			Inches		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.94	1.17	1.35	0.037	0.046	0.053
A1	0.00	0.05	0.10	0.000	0.002	0.004
b	0.51	0.61	0.71	0.020	0.024	0.028
c	--	--	0.15	--	--	0.006
D	1.40	1.60	1.80	0.055	0.063	0.071
E	2.54	2.69	2.84	0.100	0.106	0.112
HE	3.56	3.68	3.86	0.140	0.145	0.152
L	0.25	--	--	0.010	--	--
0	0	--	10	0	--	10

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	100	V
Maximum RMS voltage	V_{RMS}	75	V
Maximum DC blocking voltage	V_R	100	V
Continuous forward current	I_F	150	mA
Maximum forward voltage @ $I_F=0.25\text{A}$	V_F	1.0	V
Peak reverse current at $V_R=75\text{V}$ (Note2)	I_R	2.0	μA
Power Dissipation	P_D	200	mW
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	750	mA
Typical junction capacitance at $V_R=0\text{V}$, $f=1\text{MHz}$	C_J	20	pF
Typical thermal resistance (Note1)	$R_{\theta JA}$	500	$^{\circ}\text{C/W}$
Operating junction temperature range	T_J	-55 to +125	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

Notes:

1. Part mounted on FR-4 board with recommended pad layout
2. Short duration pulse test used to minimize self-heating effect.

Ratings and Characteristic Curves (T_A=25°C unless otherwise noted)

Figure 1. Power Derating Curve

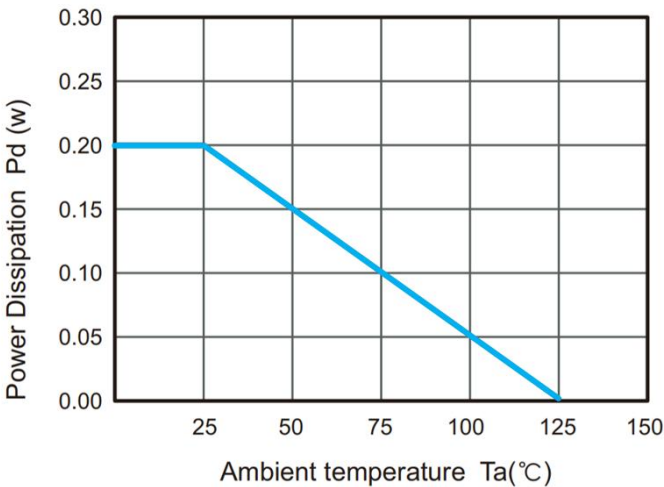


Figure 2. Typical Reverse Characteristics

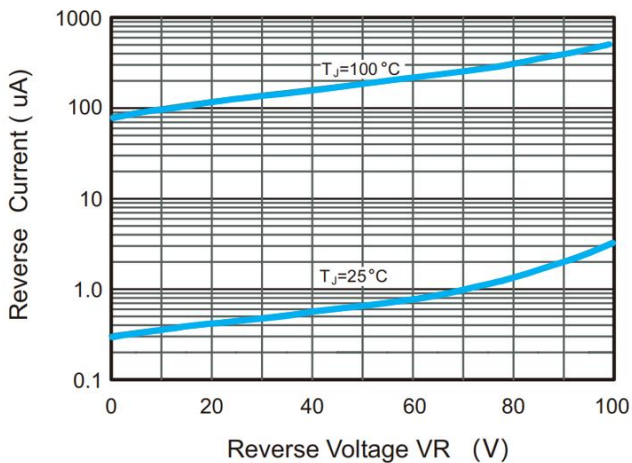


Figure 3. Typical Forward Voltage

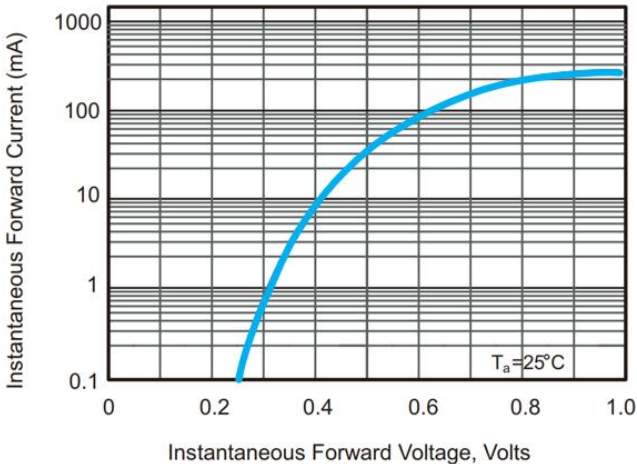


Figure 4. Typical Junction Capacitance

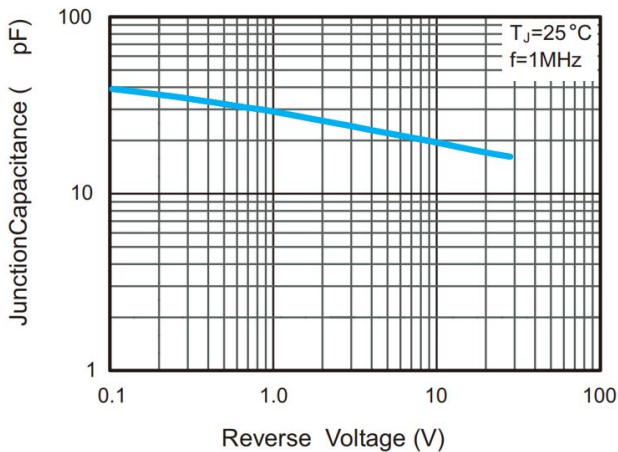
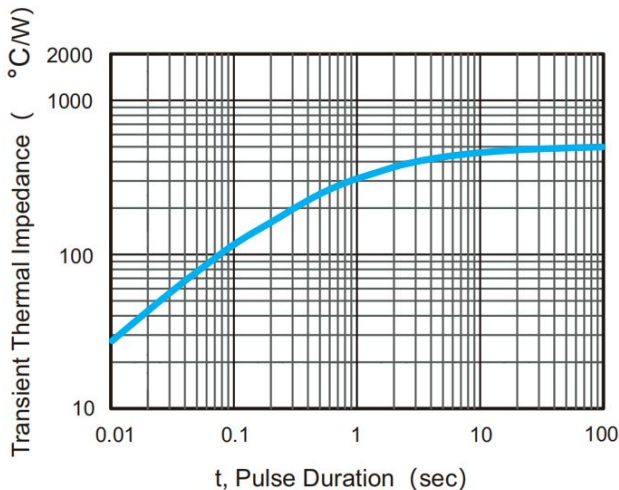
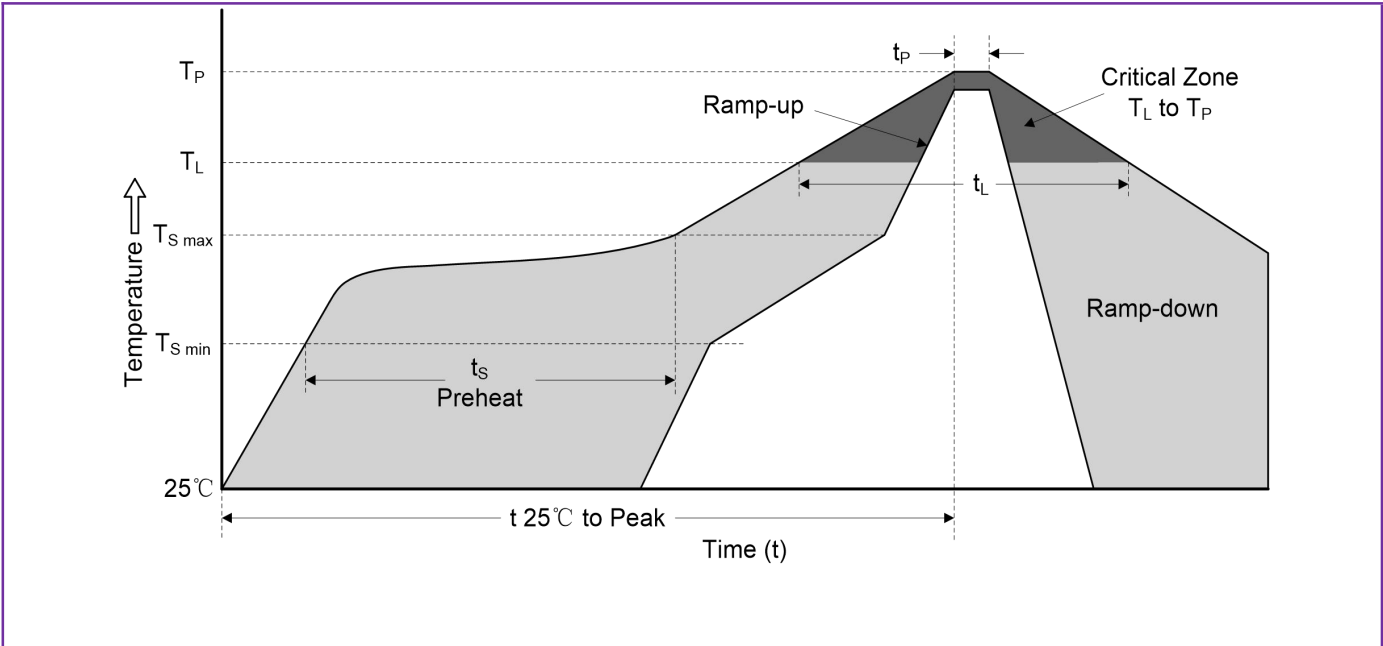


Figure 5. Typical Transient Thermal Impedance



Reflow Soldering Parameters



Reflow Condition		Lead-free Assembly
Pre heat	-Temperature Min ($T_{S\ min}$)	150°C
	-Temperature Max ($T_{S\ max}$)	200°C
	-Time (min to max) (t_s)	60-180 seconds
Average ramp-up rate (T_L to T_P)		3°C/second max.
$T_{S\ max}$ to T_L -Ramp-up Rate		3°C/second max.
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Time (min to max) (t_s)	60-150 seconds
Peak Temperature (T_P)		260(+0/-5)°C
Time within 5°C of actual Peak Temperature (t_P)		20-40 seconds
Ramp-down Rate		6°C/second max.
Time 25°C to Peak Temperature(T_P)		8 minutes max.
Do not exceed		260°C