

Features

- The plastic package carries UL Flammability Classification 94V-0
- For surface mounted applications
- Low power loss, high efficiency
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 260°C/10 seconds at terminals



Mechanical Characteristics

- Case: SMA-W package molded plastic body
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.0024 ounce, 0.067 grams

Absolute Maximum Ratings and Electrical Parameters (TA=25°C unless otherwise specified)

PARAMETER	SYMBOL	SS12W	SS13W	SS14W	SS15W	SS16W	SS18W	SS110W	SS115W	SS120W	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	80	100	150	200	V	
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	56	70	105	140	V	
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	80	100	150	200	V	
Maximum average forward rectified current	I_{AV}	1									A	
Peak forward surge current ^(NOTE1)	I_{FSM}	30									A	
Maximum instantaneous forward voltage at 1A	V_F	0.55			0.7		0.85		0.9		V	
Maximum DC reverse current at rated DC blocking voltage	$T_A=25^\circ\text{C}$	I_R					100		50		uA	
	$T_A=100^\circ\text{C}$	I_{RT}					5000		2000		uA	
Typical junction capacitance ^(NOTE 2)	C_J	110			90						pF	
Typical Thermal Resistance Junction to Ambient ^(NOTE3)	$R_{\theta JA}$	75									°C/W	
Typical Thermal Resistance Junction to Lead ^(NOTE3)	$R_{\theta JL}$	25									°C/W	
Operating Temperature Range	T_J	-55 to 125					-55 to 150					°C
Storage Temperature Range	T_{STG}	-55 to 150									°C	

Note1: 8.3ms single half sine-wave superimposed on rated load

Note2: Measured at 1MHz and applied reverse voltage of 4.0V DC.

Note3: PCB. mounted with 5×5mm copper pad areas

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SMA-W	Tape/Reel, 11" reel	5000	EIA-481-1
	Tape/Reel, 7" reel	2000	EIA-481-1

Rating And Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

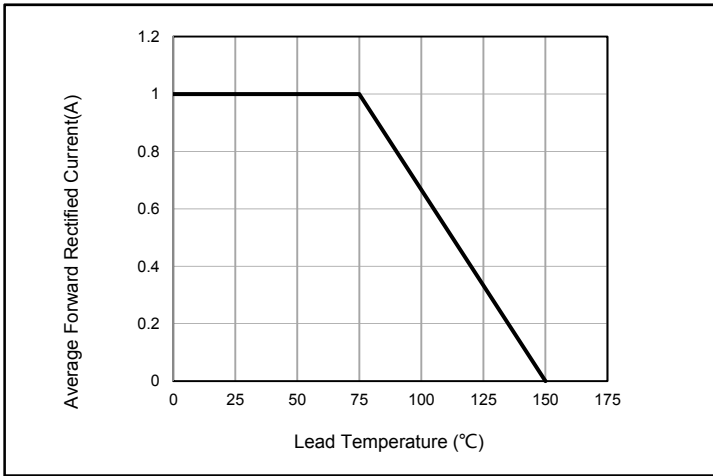


Fig. 1 - Forward Current Derating Curve

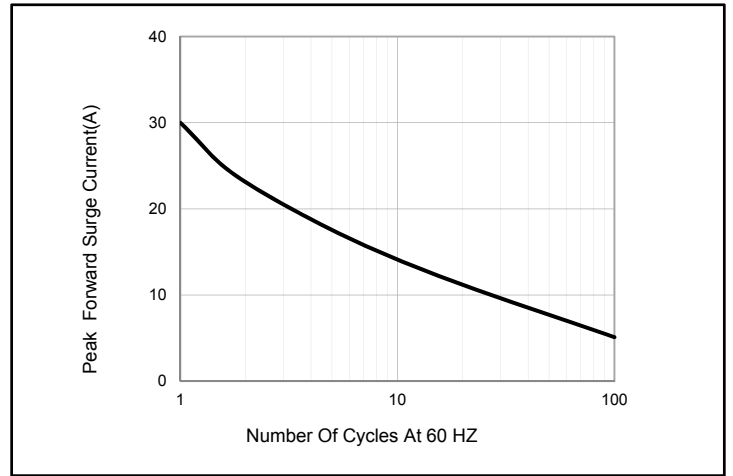


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

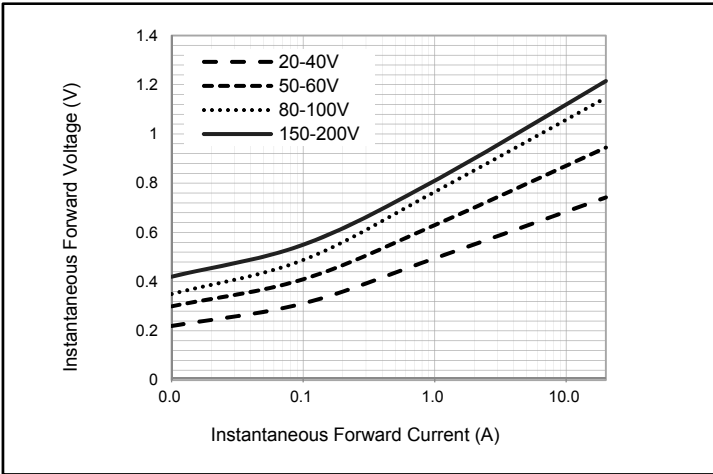


Fig. 3 - Typical Instantaneous Forward Characteristics

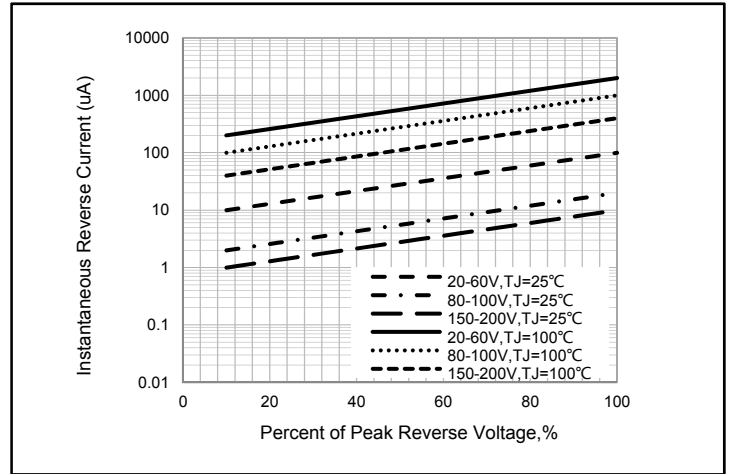


Fig. 4 - Typical Reverse Characteristics

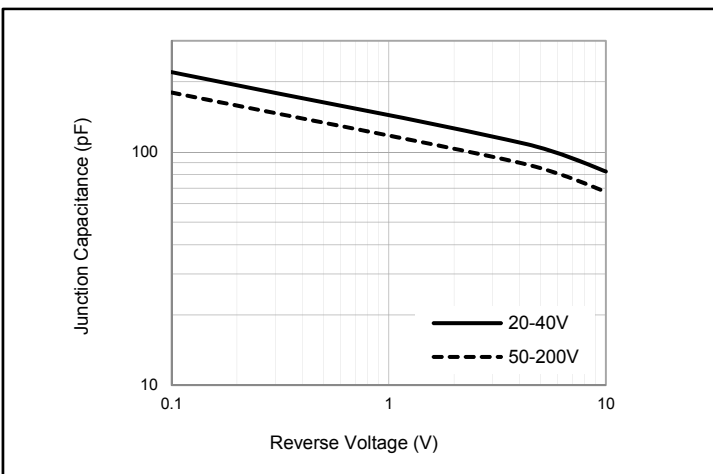


Fig. 5 - Typical Junction Capacitance

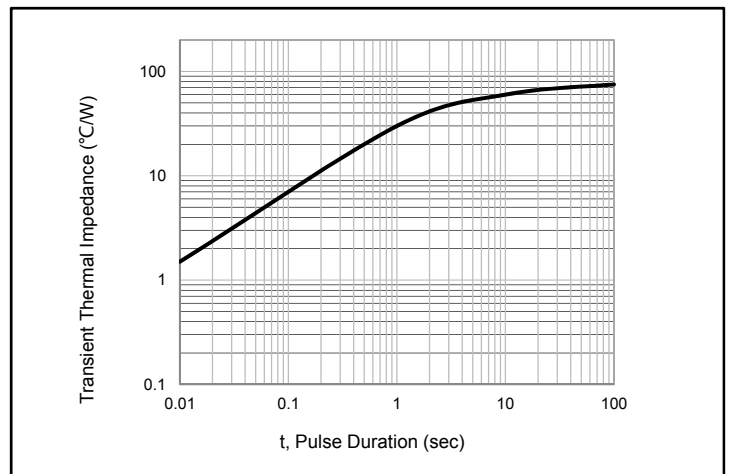
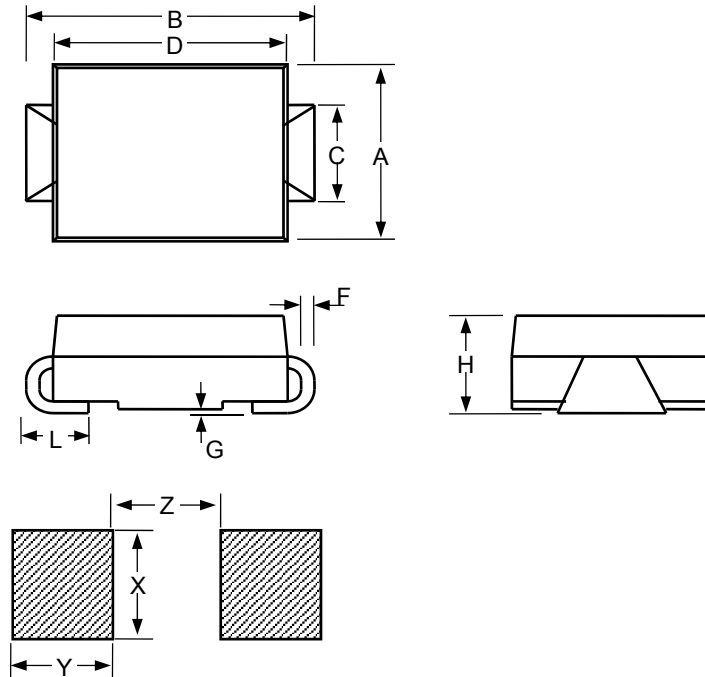


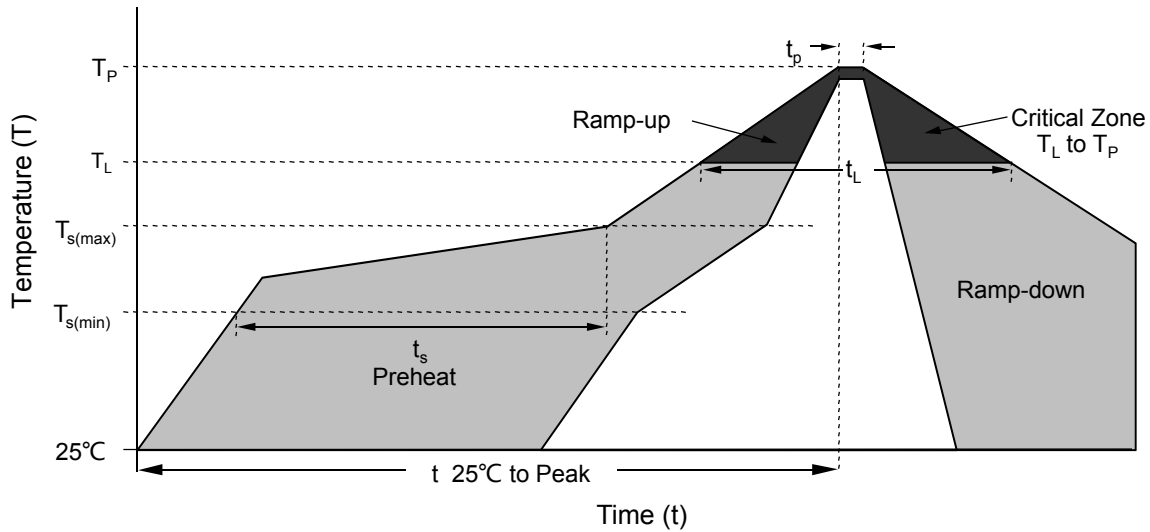
Fig. 6 - Typical Transient Thermal Impedance

Package Dimensions



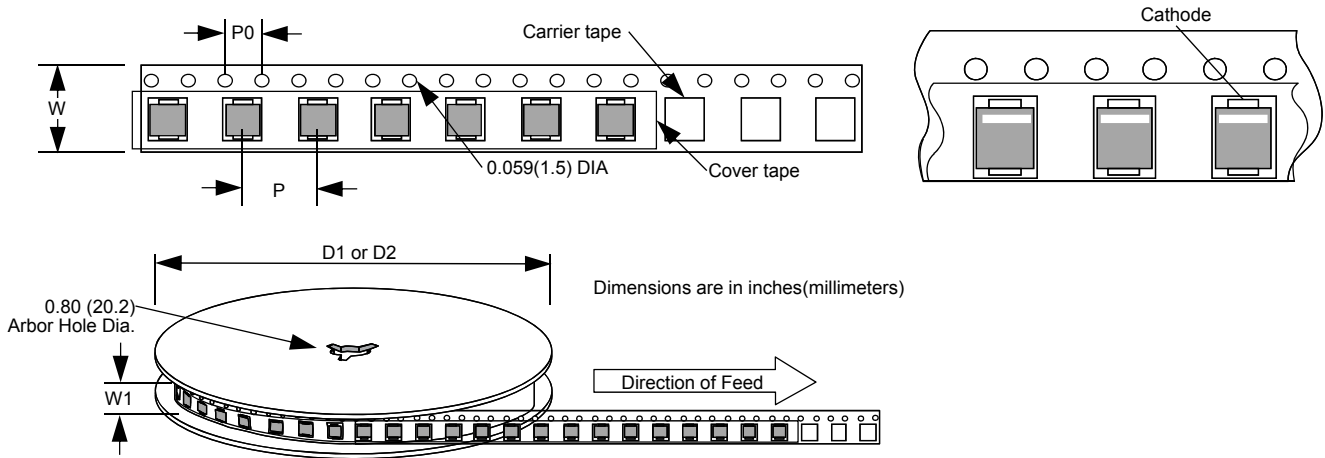
SMA-W						
Dimension	Inches			Millimeters		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.1		0.11	2.54		2.8
B	0.194		0.223	4.93		5.66
C	0.051		0.067	1.3		1.7
D	0.157		0.177	3.99		4.5
L	0.03		0.06	0.76		1.52
F	0.006		0.012	0.152		0.305
G	-		0.008	-		0.203
H	0.078		0.095	1.98		2.42
X		0.085			2.16	
Y		0.07			1.78	
Z		0.079			2	

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 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		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 (t_L)	60 – 150 secs
Peak Temperature (T_P)		260 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 secs
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (t)		8 minutes Max.
Do not exceed		260°C

Tape and Reel Specification



Dimension	Inches			Millimeters		
	MIN	NOM	MAX	MIN	NOM	MAX
P		0.157			4	
P0		0.157			4	
W		0.472			12	
W1		0.492			12.5	
D1		7			177.8	
D2		11			279.4	

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