

Features

- The plastic package carries UL Flammability Classification 94V-0
- For surface mounted applications
- Low reverse leakage
- 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: SMC(DO-214AB) package molded plastic body over passivated chip
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.0088 ounce, 0.25 grams

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

PARAMETER		SYMBOL	HS3A	HS3B	HS3D	HS3G	HS3J	HS3K	HS3M	UNIT
Maximum repetitive peak reverse voltage		V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage		V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage		V _{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current		I _{AV}	3							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load		I _{FSM}	100							A
Maximum instantaneous forward voltage at 3A		V _F	1			1.4	1.7			V
Maximum DC reverse current at rated DC blocking voltage	T _A =25 °C	I _R	5							uA
	T _A =100 °C	I _{RT}	50							uA
Maximum reverse recovery time (NOTE 1)		t _{rr}	50				75			ns
Typical junction capacitance (NOTE 2)		C _J	45							pF
Typical Thermal Resistance Junction to Ambient (NOTE3)		R _{θJA}	55							°C/W
Typical Thermal Resistance Junction to Lead (NOTE3)		R _{θJL}	15							°C/W
Operating Temperature Range		T _J	-55 to 150							°C
Storage Temperature Range		T _{STG}	-55 to 150							°C

Note1: Reverse recovery condition $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$

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

Note3: PCB. mounted with 16×16mm copper pad areas

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SMC	Tape/Reel, 13" reel	3000	EIA-481-1
	Tape/Reel, 7" reel	500	EIA-481-1

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

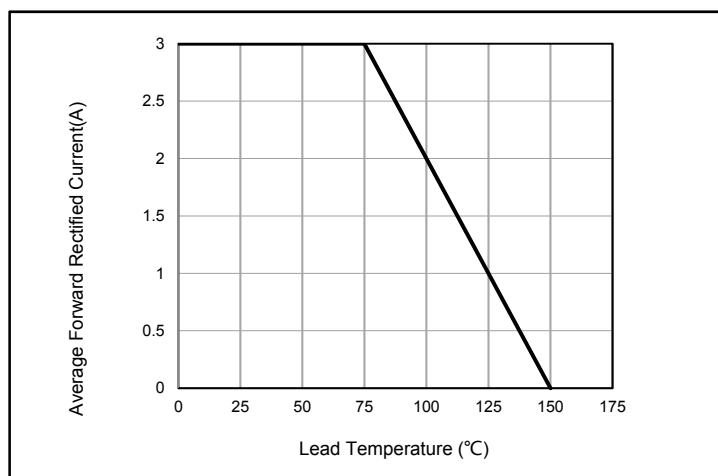


Fig. 1 - Forward Current Derating Curve

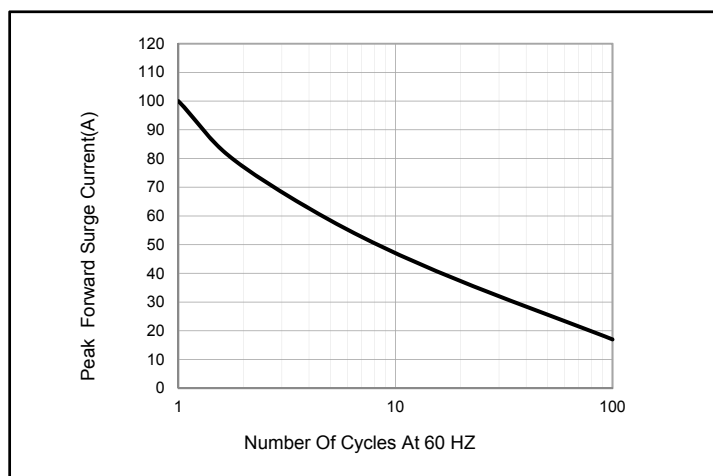


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

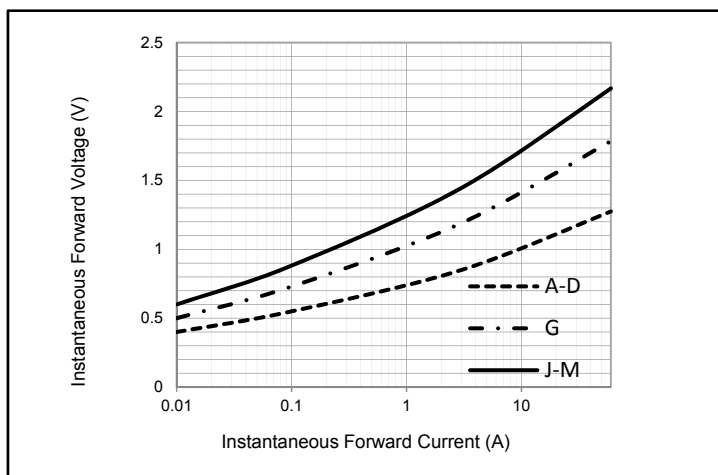


Fig. 3 - Typical Instantaneous Forward Characteristics

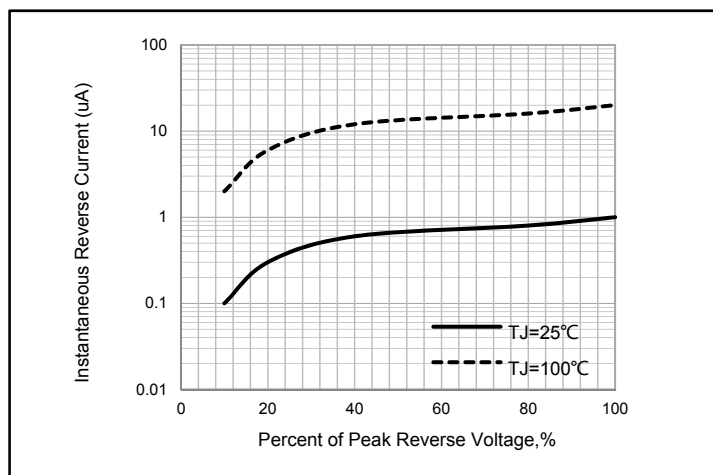


Fig. 4 - Typical Reverse Characteristics

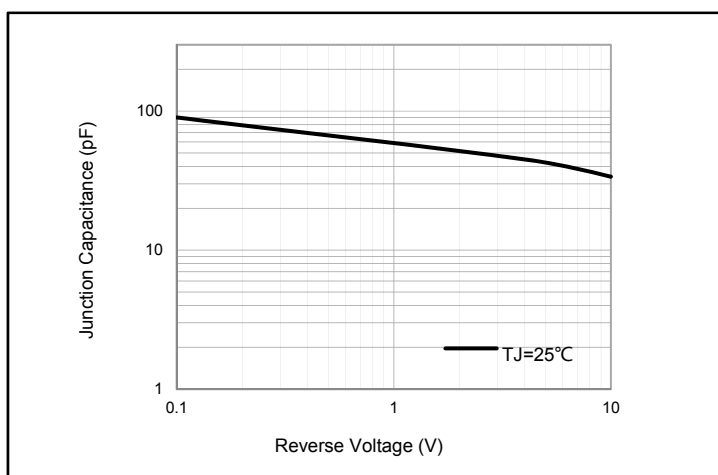


Fig. 5 - Typical Junction Capacitance

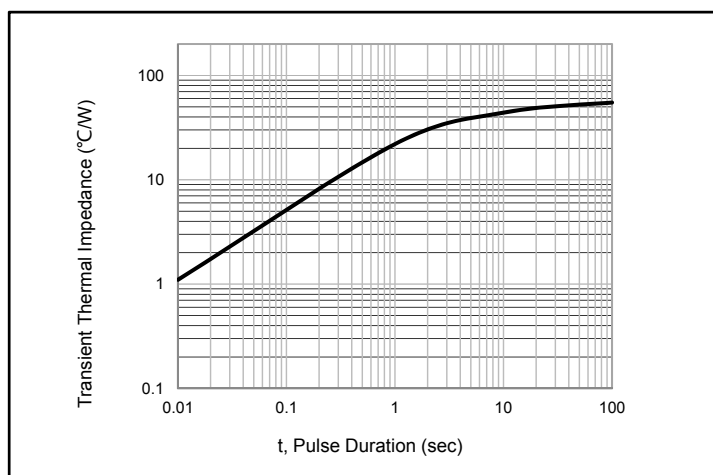
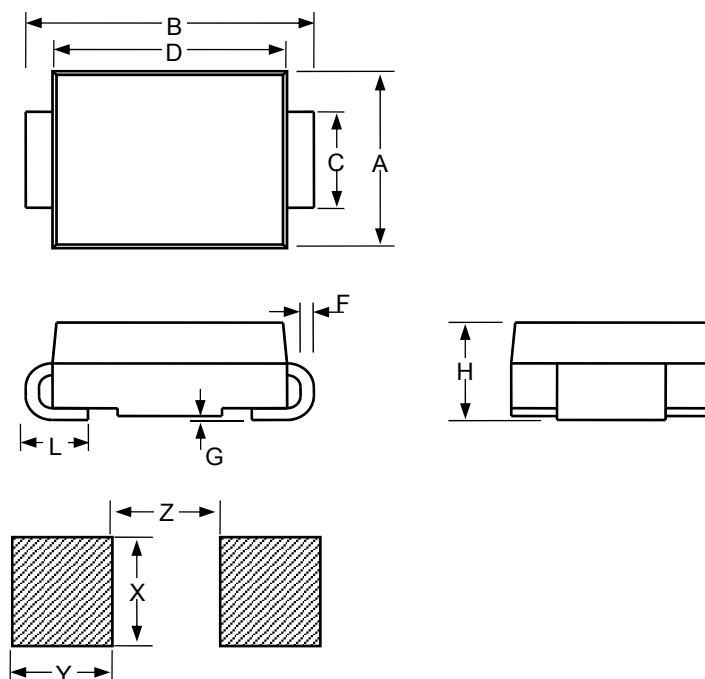


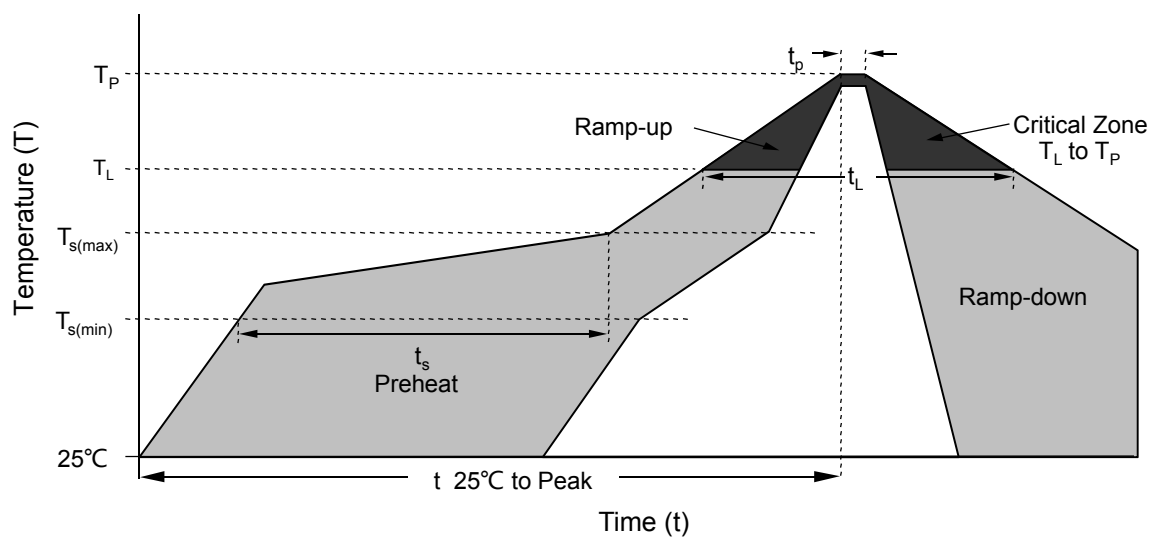
Fig. 6 - Typical Transient Thermal Impedance

Package Dimensions



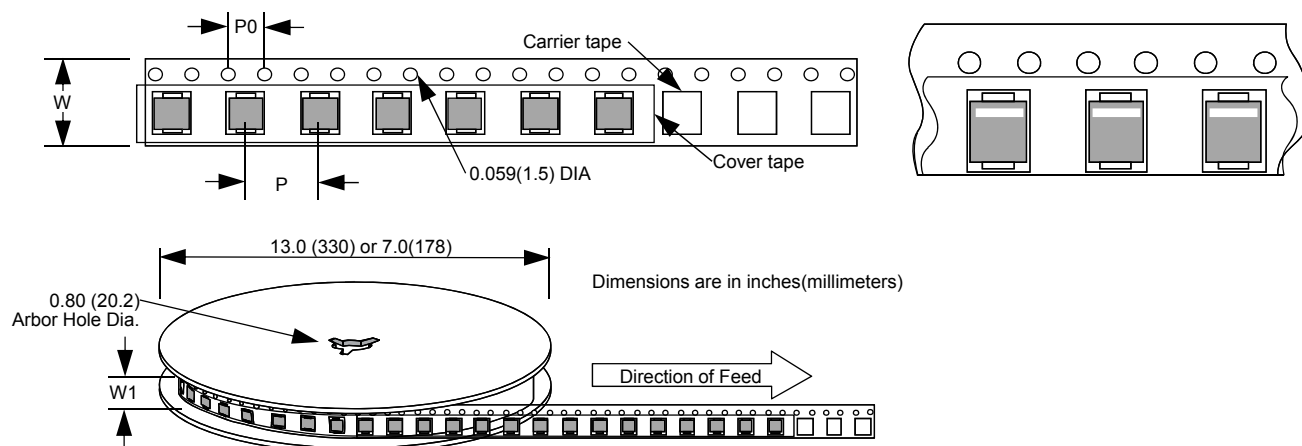
SMC						
Dimension	Inches			Millimeters		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.22		0.245	5.59		6.22
B	0.305		0.32	7.75		8.13
C	0.114		0.126	2.9		3.2
D	0.26		0.28	6.6		7.11
L	0.03		0.06	0.76		1.52
F	0.006		0.012	0.15		0.305
G	-		0.008	-		0.203
H	0.087		0.11	2.2		2.8
X		0.15			3.82	
Y		0.119			3.03	
Z		0.151			3.84	

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		0.315			8	
P0		0.157			4	
W		0.63			16	
W1		0.646			16.4	

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