

**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: SMB(DO-214AA) package molded plastic body
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.0034 ounce, 0.095 grams

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

PARAMETER	SYMBOL	SS52	SS53	SS54	SS55	SS56	SS58	SS510	SS515	SS520	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	$I_{AV}$	5									A	
Peak forward surge current <sup>(NOTE1)</sup>	$I_{FSM}$	100									A	
Maximum instantaneous forward voltage at 5A	$V_F$	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 <sup>(NOTE 2)</sup>	$C_J$	550			450						pF	
Typical Thermal Resistance Junction to Ambient <sup>(NOTE3)</sup>	$R_{\theta JA}$	65									°C/W	
Typical Thermal Resistance Junction to Lead <sup>(NOTE3)</sup>	$R_{\theta JL}$	20									°C/W	
Operating Temperature Range	$T_J$	-55 to 125					-55 to 150					°C
Storage Temperature Range	$T_{STG}$	-55 to 150									°C	

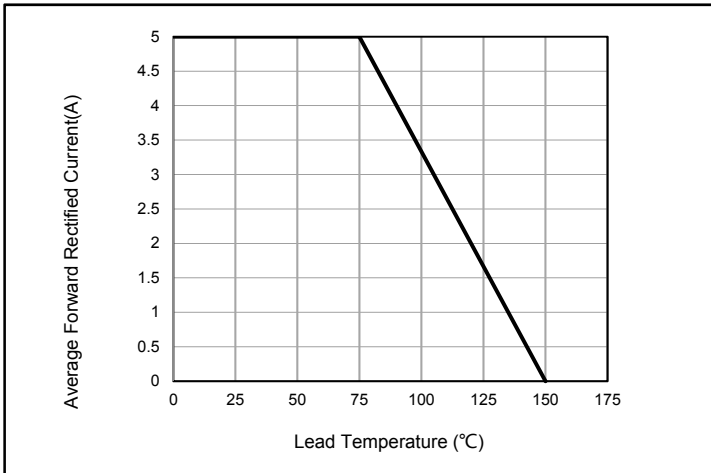
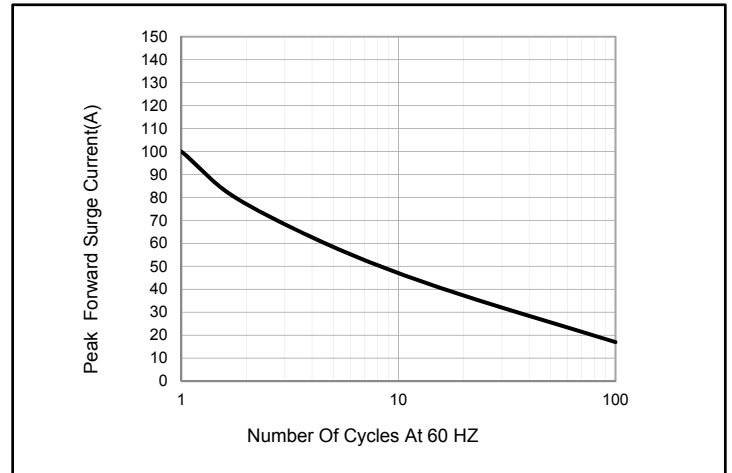
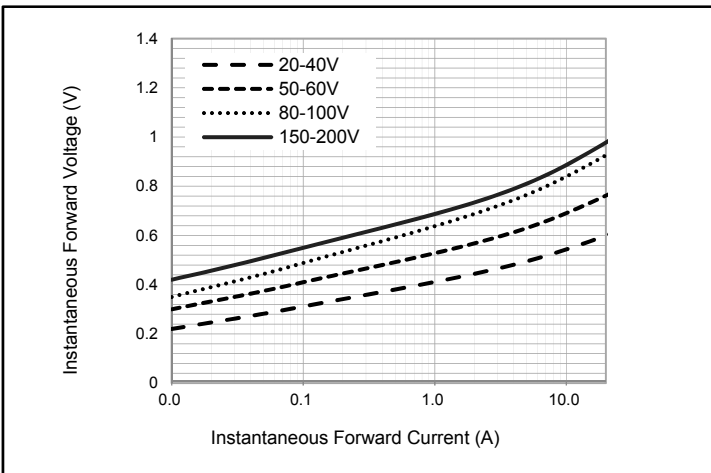
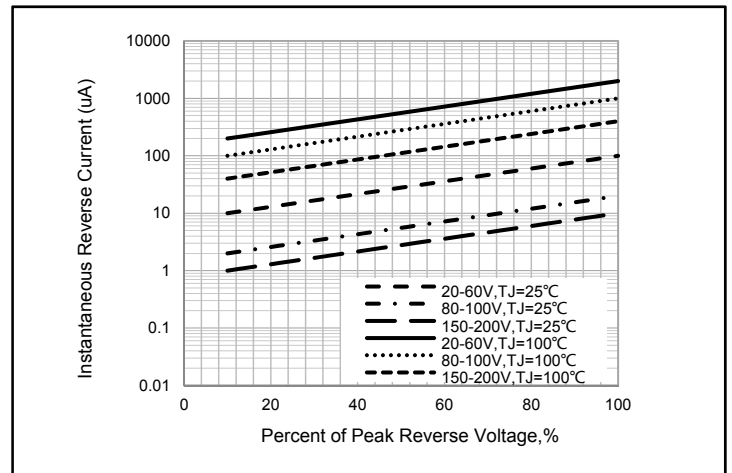
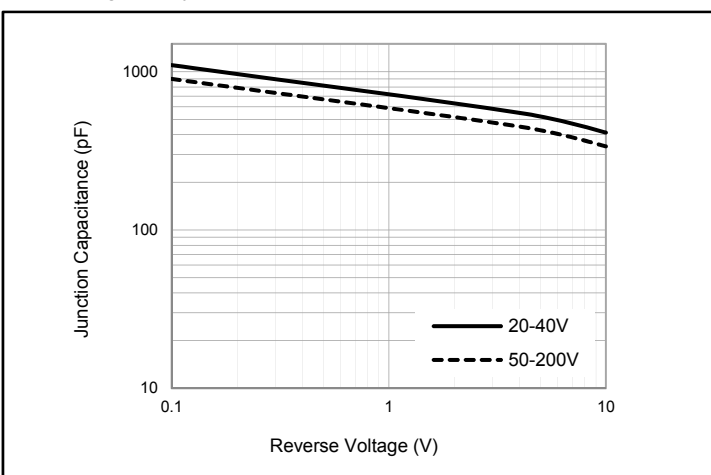
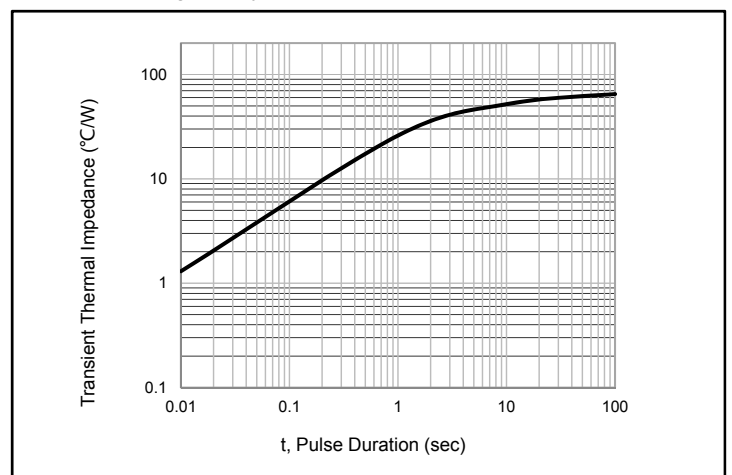
Note1: 8.3ms single half sine-wave superimposed on rated load

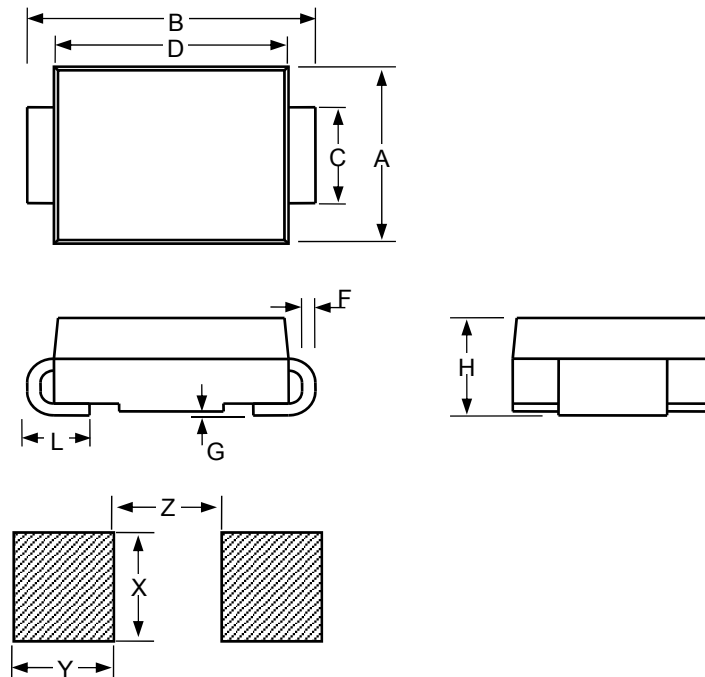
Note2: Measured at 1MHz and applied reverse voltage of 4.0V DC.

Note3: PCB. mounted with 7×7mm copper pad areas

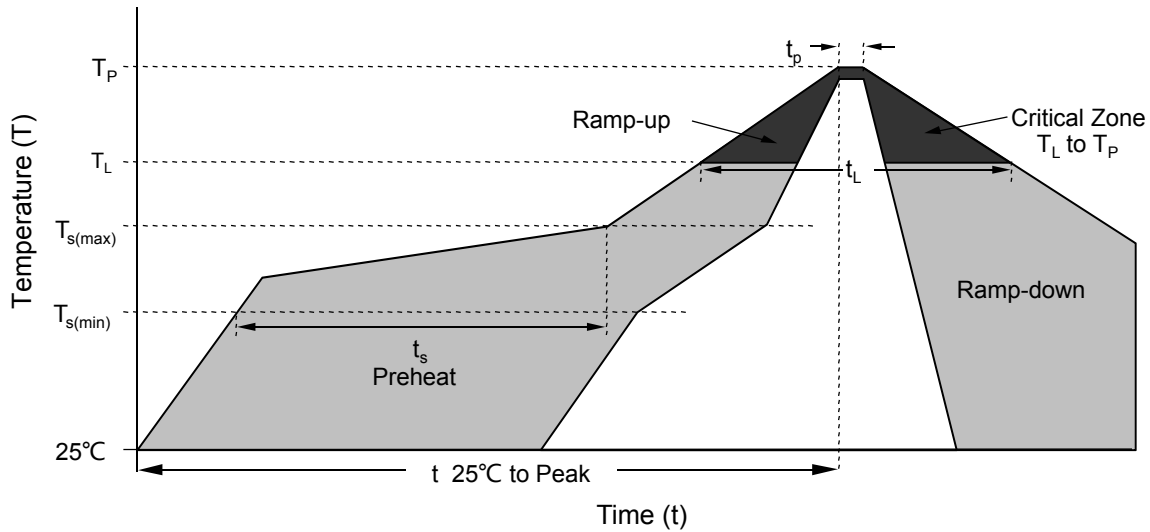
**Summary of Packing Options**

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

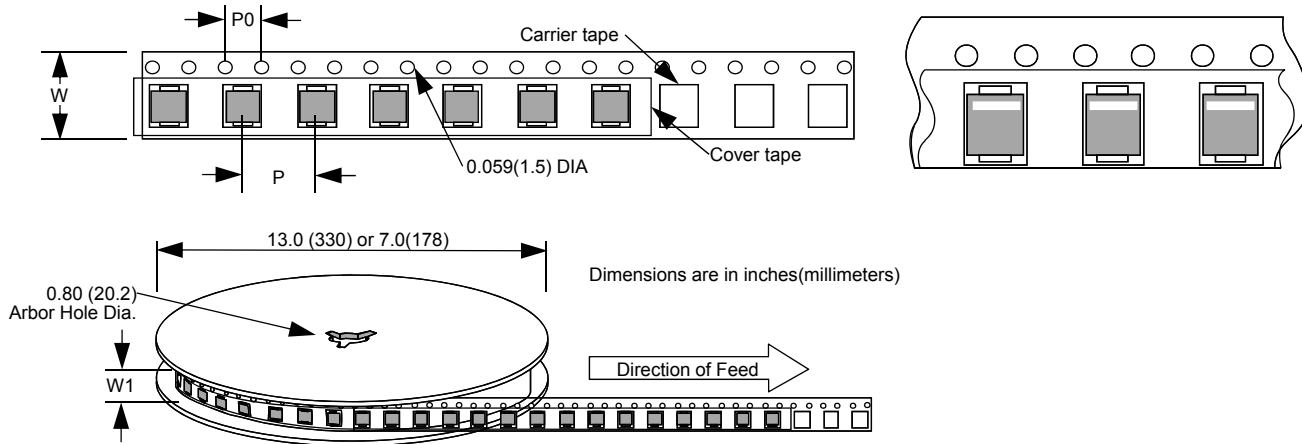

**Fig. 1 - Forward Current Derating Curve**

**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**



SMB						
Dimension	Inches			Millimeters		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.134	0.144	0.155	3.4	3.67	3.94
B	0.205	0.213	0.22	5.21	5.4	5.59
C	0.075	0.079	0.083	1.9	2	2.1
D	0.169		0.185	4.3		4.7
L	0.03		0.06	0.76		1.52
F	0.006		0.012	0.152		0.305
G	-		0.008	-		0.203
H	0.085	0.091	0.096	2.15	2.3	2.45
X		0.11			2.8	
Y		0.079			2	
Z		0.079			2	



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 <sup>+0/-5</sup> °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		0.472			12	
W1		0.492			12.5	

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