YFSEMI

Schottky Barrier Diode
Surface Mount - 5A - SS5x

SS5x

LF RoHS

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℃/10 seconds at terminals

Mechanical Characteristics

- Case: SMC(DO-214AB) package molded plastic body
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.0088 ounce, 0.25 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 (NOTE1)		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 ℃	I_R	500					100		50		uA
	T_A=100 ℃	I_{RT}	10000					5000		2000		uA
Typical junction capacitance (NOTE 2)		C_J	550			450						pF
Typical Thermal Resistance Junction to Ambient (NOTE3)		$R_{\theta JA}$	55									℃/W
Typical Thermal Resistance Junction to Lead (NOTE3)		$R_{\theta JL}$	15									℃/W
Operating Temperature Range		T_J	-55 to 125					-55 to 150				℃
Storage Temperature Range		T_{STG}	-55 to 150									℃

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 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°C unless otherwise noted)

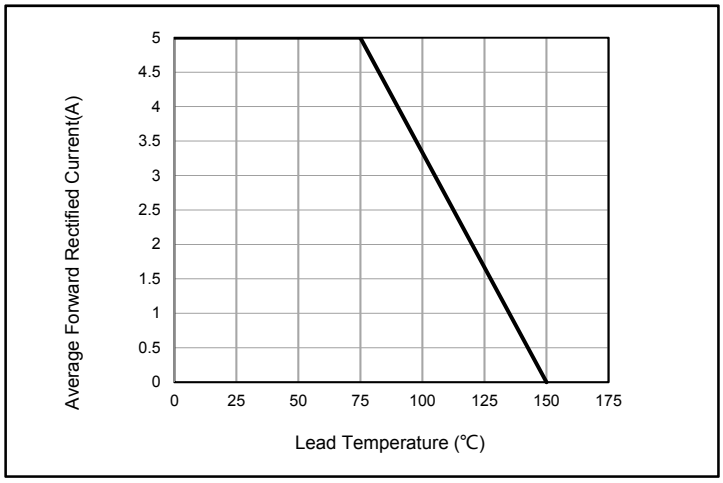


Fig. 1 - Forward Current Derating Curve

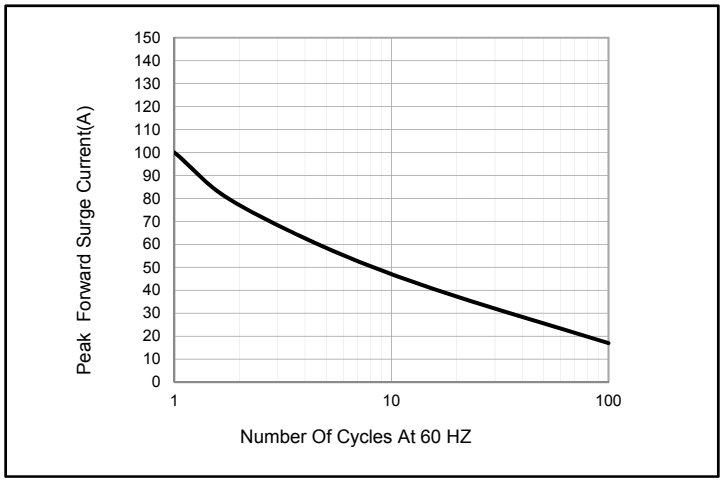


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

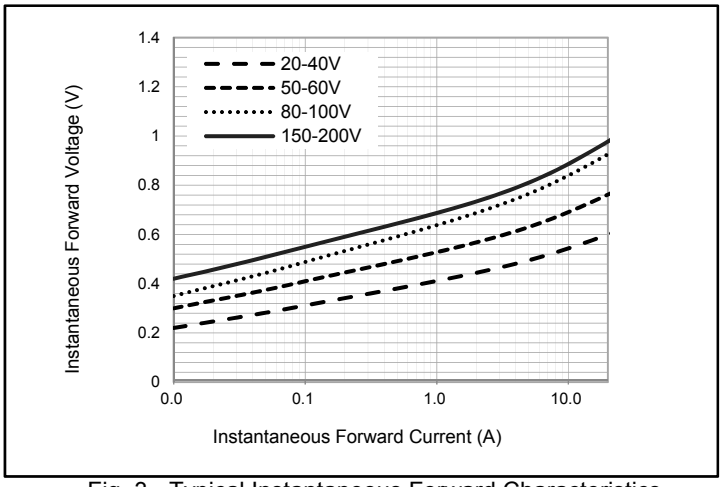


Fig. 3 - Typical Instantaneous Forward Characteristics

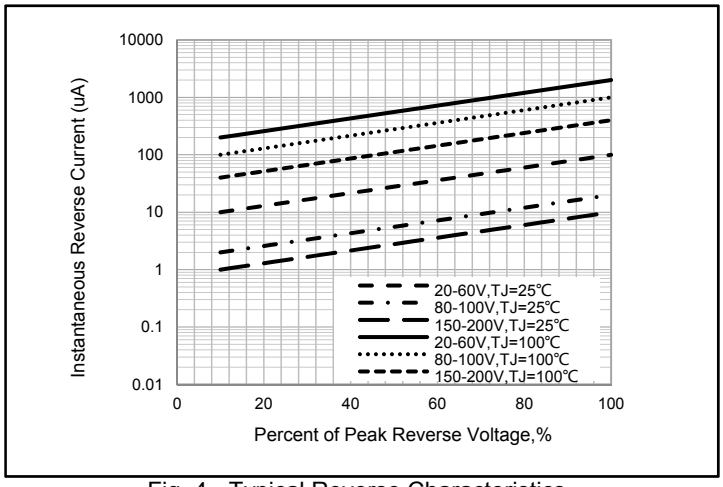


Fig. 4 - Typical Reverse Characteristics

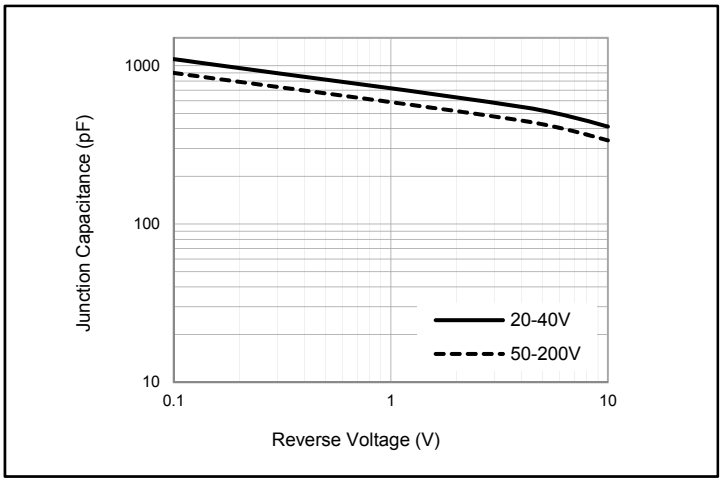


Fig. 5 - Typical Junction Capacitance

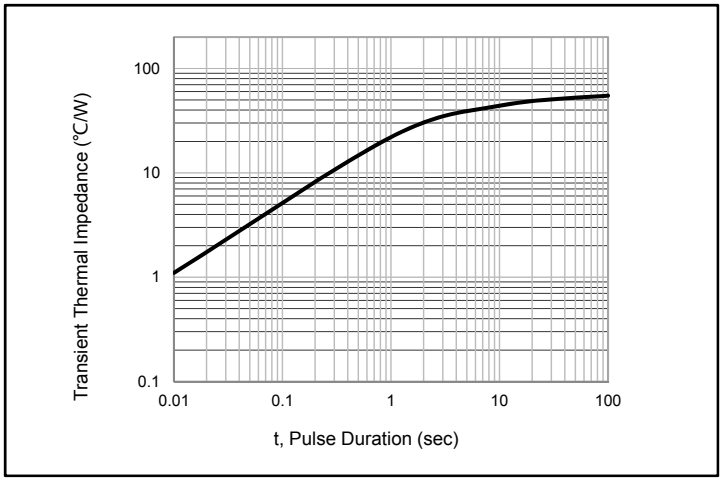
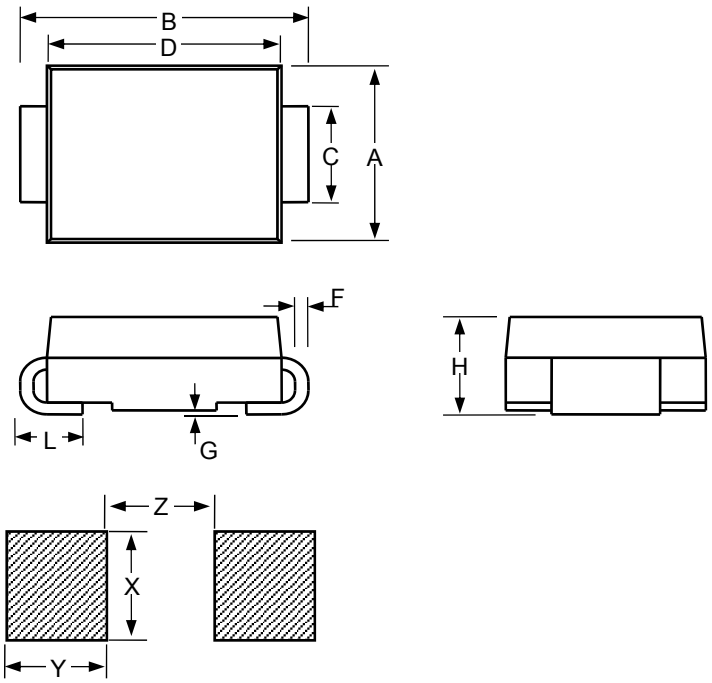


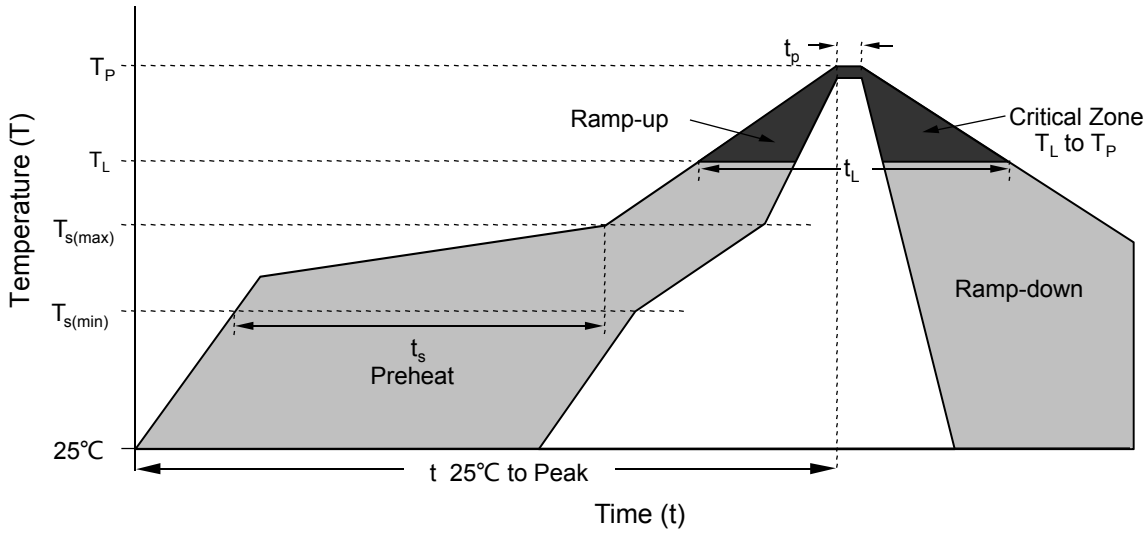
Fig. 6 - Typical Transient Thermal Impedance

Package Dimensions



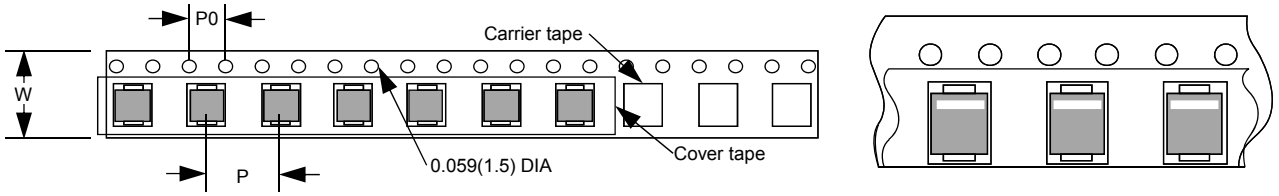
SMC						
Dimension	Inches			Millimeters		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.22		0.245	5.59		6.22
B	0.305		0.32	7.75		8.13
C	0.114		0.126	2.9		3.2
D	0.26		0.28	6.6		7.11
L	0.03		0.06	0.76		1.52
F	0.006		0.012	0.15		0.305
G	-		0.008	-		0.203
H	0.087		0.11	2.2		2.8
X		0.15			3.82	
Y		0.119			3.03	
Z		0.151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

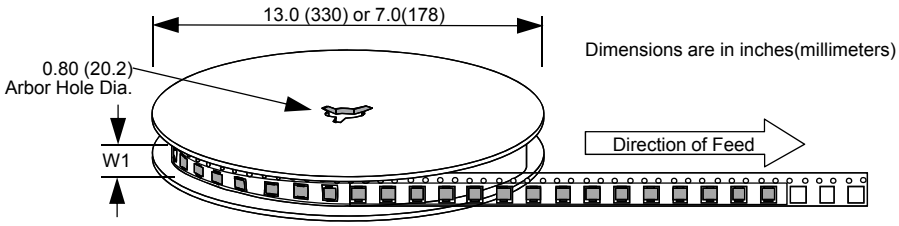
Soldering Parameters



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 TL - 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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