S5AC-S5MC Series

5.0A Surface Mount Rectifier

Datasheet-production date

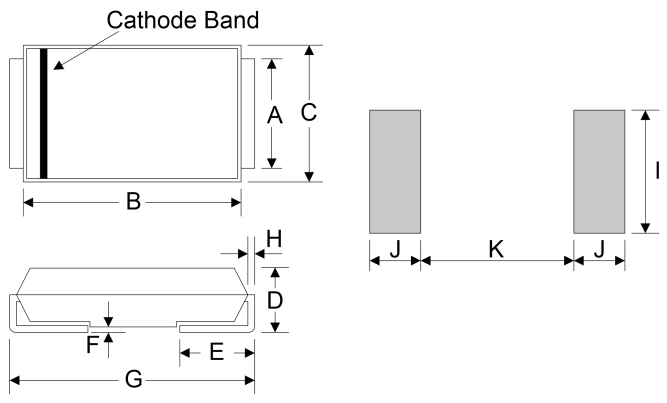
Features

- Glass Passivated Die Construction
- Low Forward Voltage Drop and High Current Capability
- Surge Overload Rating to 100A Peak
- Ideally Suited for Automated Assembly
- Plastic package has underwriters laboratory flammability 94V-0
- Case: SMC
- Moisture Sensitivity: Level 1 per J-STD-020
- Polarity: Cathode Band or Cathode Notch

Application

- Instrument
- BCM
- SRS
- CRC
- Muti-media

Dimensions (SMC)



Ref.	Millimeters		Inches	
	Min	Max	Min.	Max.
A	2.90	3.20	0.114	0.126
B	6.60	7.11	0.260	0.280
C	5.59	6.22	0.220	0.245
D	2.06	2.62	0.079	0.103
E	0.76	1.52	0.030	0.060
F	-	0.203	-	0.008
G	7.75	8.130	0.305	0.320
H	0.152	0.305	0.006	0.012
I	3.30	-	0.129	-
J	2.40	-	0.094	-
K	-	4.20	-	0.165

Electrical Characteristics (T_A=25℃ Unless otherwise specified）

Item	Symbol	Unit	S5AC	S5BC	S5DC	S5GC	S5JC	S5KC	S5MC
Device Making			S5AC	S5BC	S5DC	S5GC	S5JC	S5KC	S5MC
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	V	50	100	200	400	600	800	1000
RMS Reverse Voltage	$V_{R(RMS)}$	V	35	70	140	280	420	560	700
Average Rectified Output Current @ T_T= 75℃	I_O	A	5.0						
Maximum Forward Voltage Drop @I_F= 5.0A	V_{FM}	V	1.15						
Peak Reverse Current @T_A=25℃ at Rated DC Blocking Voltage (Note 1) @T_A=125℃	I_{RM}	μA	10 250						
Typical Total Capacitance (Note 2)	C_T	pF	40						
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	A	100						
Typical Thermal Resistance, Junction to Terminal (Note1)	$R_{\theta JT}$	℃/W	10						
Operating and Storage Temperature Range	T_J, T_{STG}	℃	-55 to +150						

Notes:

1. Thermal Resistance: Junction to terminal, unit mounted on PC board with 5.0 mm^2 (0.013 mm thick) copper pads as heat sink.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

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

Figure 1.Forward Current Derating Curve

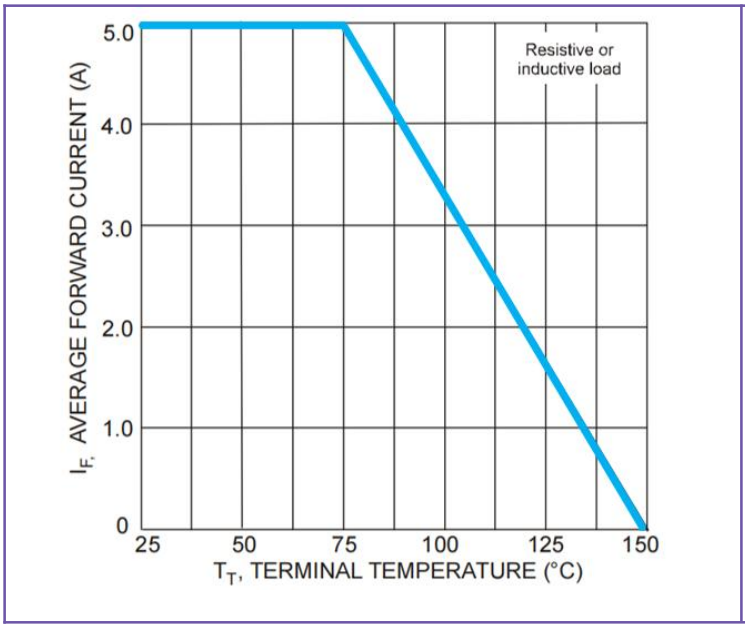


Figure 2.Typical Forward Characteristics

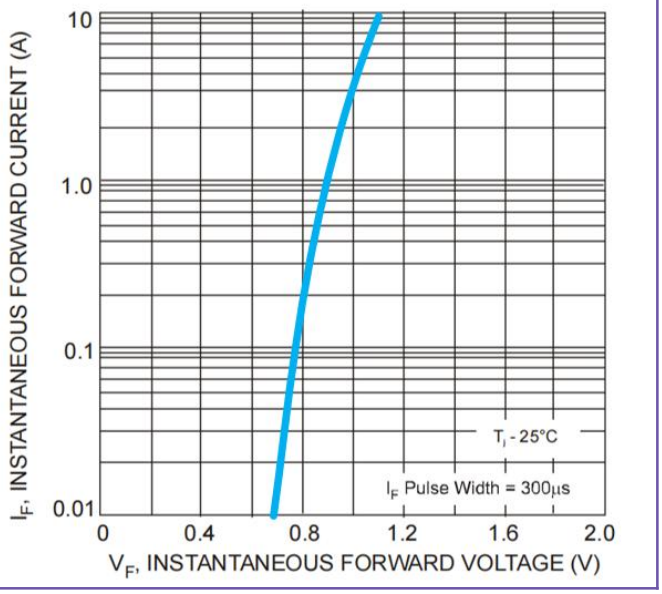


Figure 3. Forward Surge Current Derating Curve

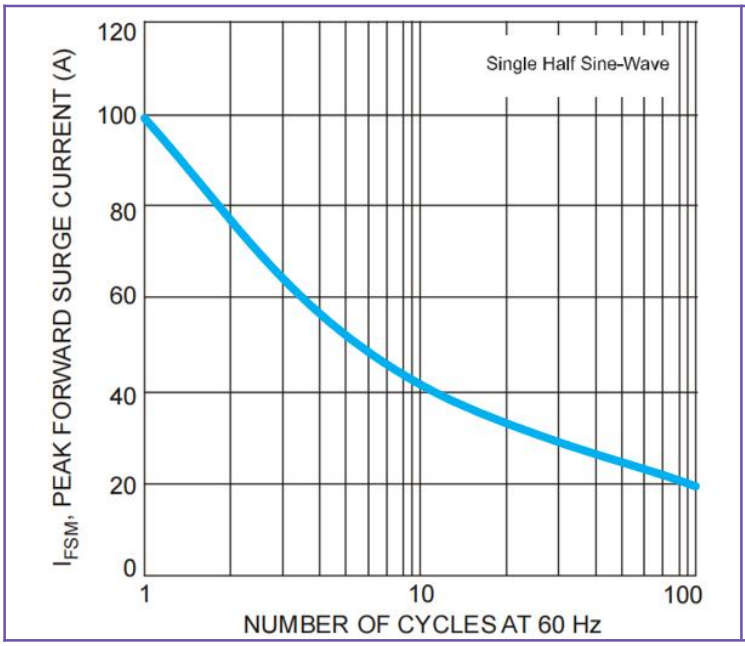
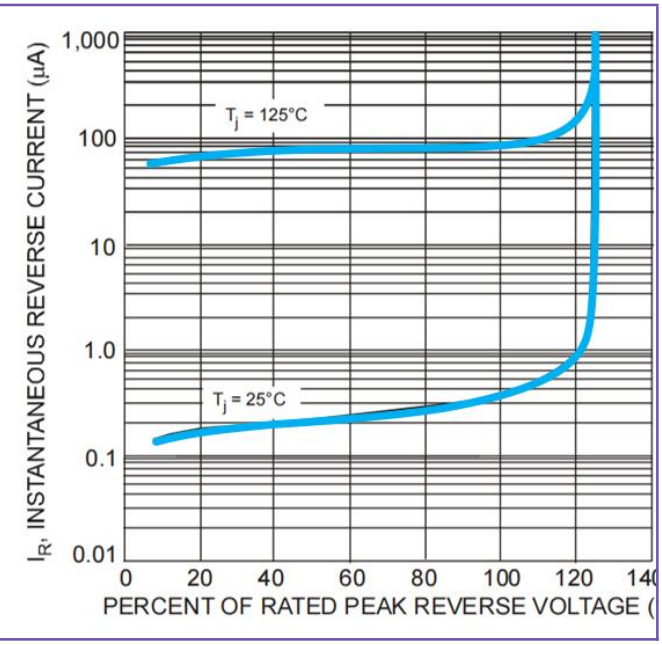
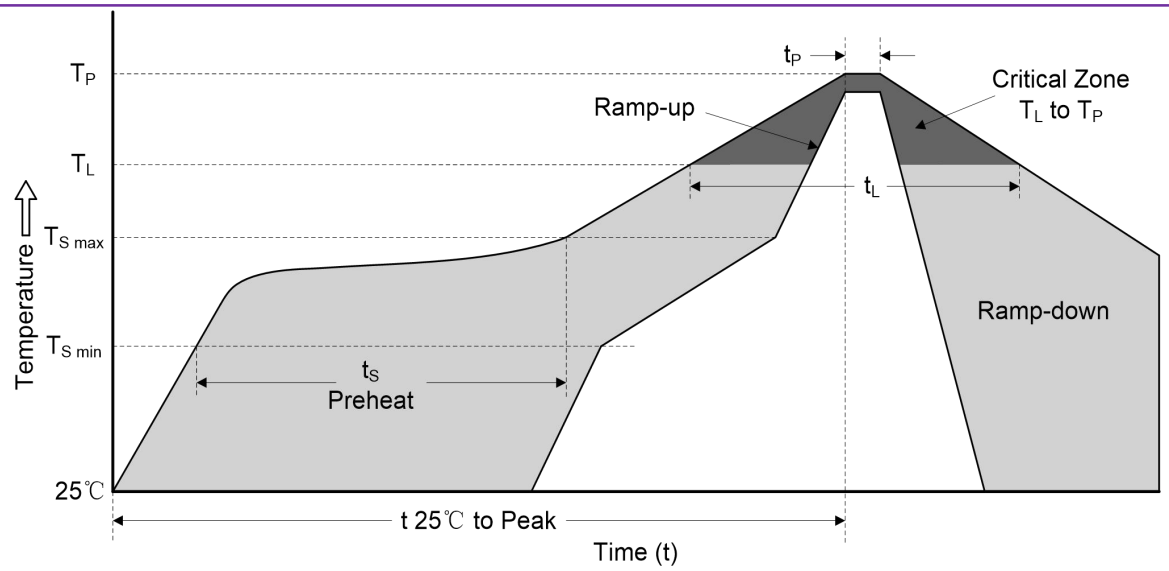


Figure 4. Typical Reverse Characteristics



Reflow Soldering Parameters



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