Features

- Halogen Free. "Green" Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note 2)("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Glass Passivated Chip Junction
- High Junction Temperature Capability
- Fully Automotive Qualified to AEC-Q101

3 Amp General Purpose Rectifier 400 to 600 Volts

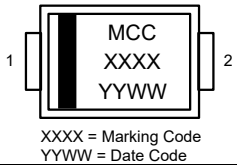
Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value		Unit
		S3GQ	S3JQ	
Peak Repetitive Reverse Voltage	V_{RRM}	400	600	V
Working Peak Reverse Voltage	V_{RWM}			
DC Blocking Voltage	V_R			
RMS Reverse Voltage	V_{RMS}	280	420	V
Average Rectified Forward Current @ T_L=120°C	$I_{F(AV)}$	3		A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I_{FSM}	100		A
Non-Repetitive Peak Surge Current @ 1ms Square Wave		200		
Current Squared Time @1ms≤t≤8.3ms	I^2t	41.5		A^2s

Marking Code

Part Number	Marking Code
S3GQ	S3G
S3JQ	S3J

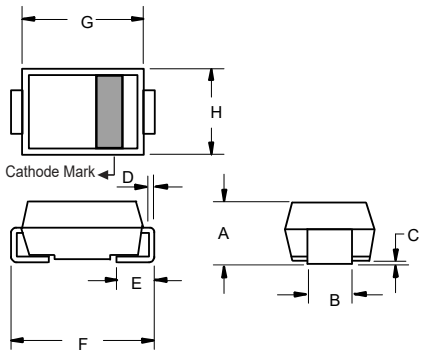
Internal Structure

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode	 XXXX = Marking Code YYWW = Date Code	
2	Anode		

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

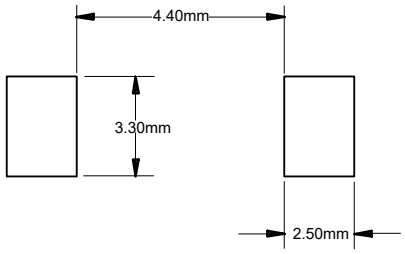
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

SMC (DO-214AB)



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.079	0.103	2.00	2.62	
B	0.108	0.128	2.75	3.25	
C	0.002	0.008	0.051	0.203	
D	0.006	0.012	0.152	0.305	
E	0.030	0.060	0.76	1.52	
F	0.305	0.320	7.75	8.13	
G	0.260	0.280	6.60	7.11	
H	0.220	0.245	5.59	6.22	

Suggested Solder Pad Layout



Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_J	Operating Junction Temperature Range		-55		175	°C
T_{stg}	Storage Temperature Range		-55		175	°C
$Rth_{(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		16		°C/W
$Rth_{(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		60		°C/W

Note:
1.Mounted on P.C.B. with 16mm*16mm copper pad areas.

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	V_F	I_F=3A;T_J=25°C			1.1	V
Reverse Current	I_R	at Rated V_R;T_J=25°C at Rated V_R;T_J=125°C			5 100	μA
Junction Capacitance	C_J	V_R=4V;f=1MHz;T_J=25°C		30		pF
Reverse Recovery Time	t_{rr}	I_F=0.5A; I_R=1.0A; I_{rr}=0.25A;T_J=25°C		3		μS

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

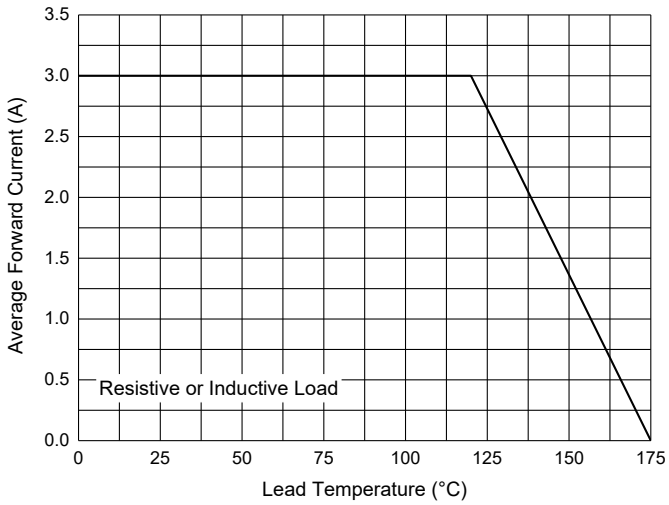


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

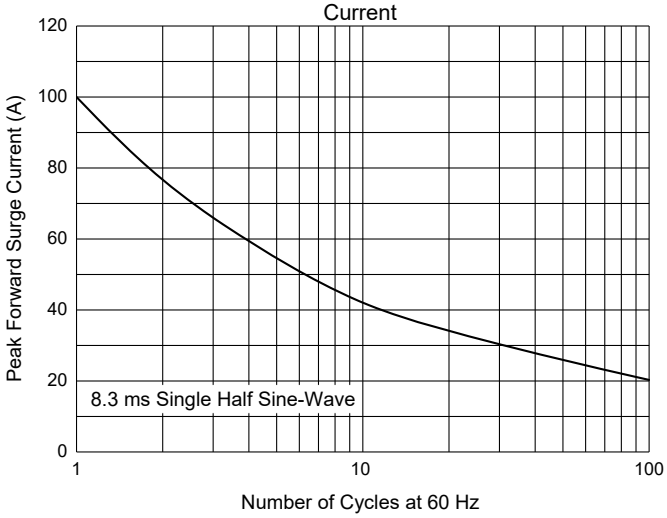


Fig. 3 - Typical Forward Characteristics

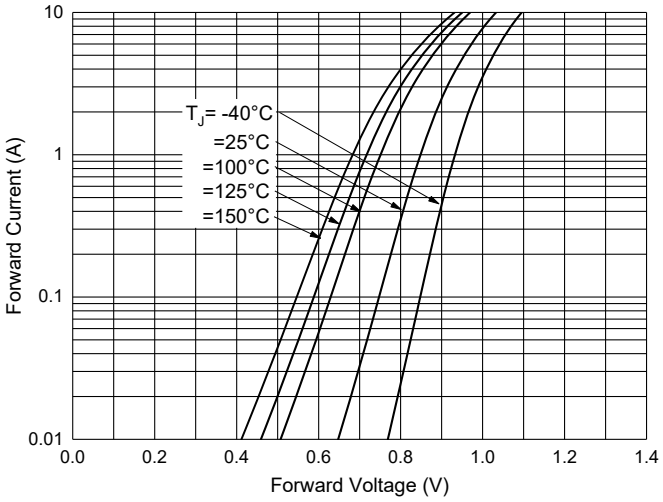


Fig. 4 - Typical Reverse Leakage Characteristics

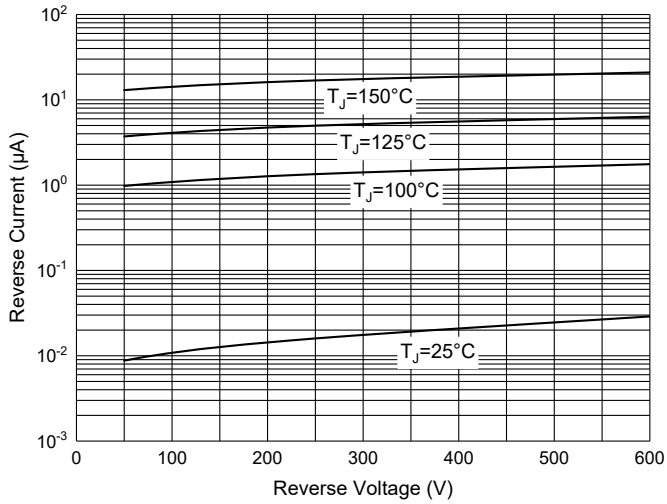
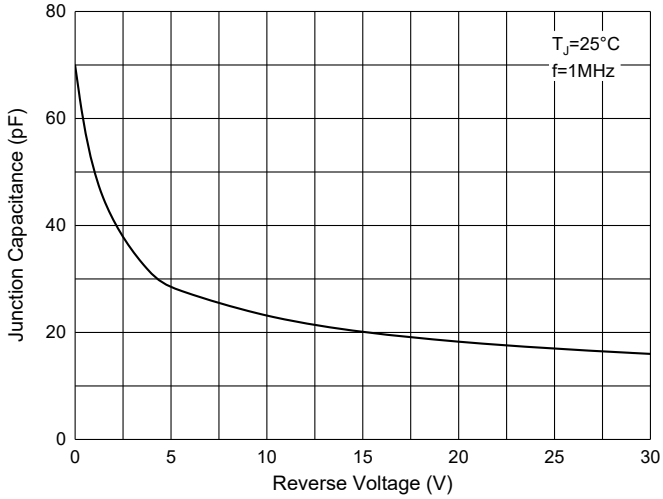


Fig. 5 - Typical Capacitance Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel