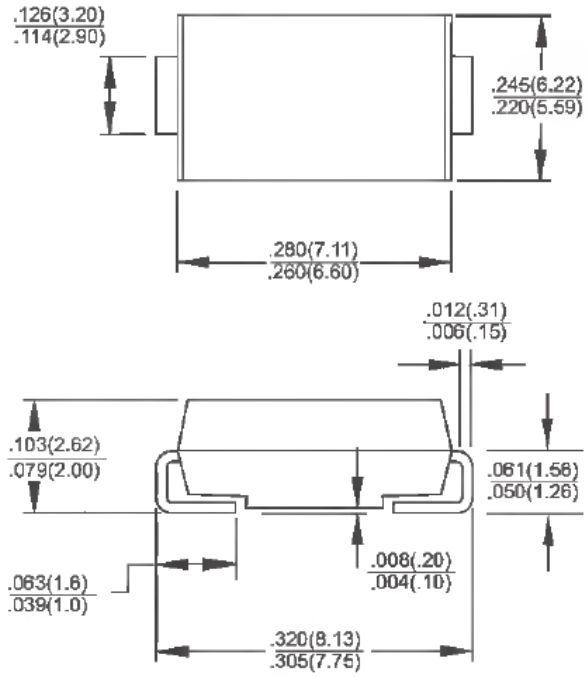
TAIWAN SEMICONDUCTOR

MUR305S-MUR360S

3.0Amp Surface Mount Ultrafast Power Rectifier

SMC/DO-214AB

Pb RoHS COMPLIANCE



Dimensions in inches and (millimeters)

Features

- For surface mounted application
- Glass oassivated junction chip
- Low profile package
- Build-in strain relief
- Qualified as per AEC-Q101
- Hideal for automated placement
- Ultrafast revovery time for high efficiency
- Low forward voltage, low power loss
- High temperature soldering guaranteed: 260℃/10 seconds on terminals
- Plastic material used carriers Underwritters Laboratory Classification 94V-0
- Epitaxial construction
- Green compound with suffix "G" on packing code & prefix "G" on datecode

Mechanical Data

- Case: SMC/DO-214AB
- Packaging:16mm tape per EIA Std RS-481
- Terminals: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026
- Polarity: Indicated by cathode band
- Weight: 0.21 gram

Marking Diagram

MURXXXS = Specific Device Code
G = Green Compound
Y = Year
M = Work Month

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%

Parameter	Symbol	MUR 305S	MUR 310S	MUR 315S	MUR 320S	MUR 340S	MUR 360S	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	150	200	400	600	V
Maximum RMS Voltage	V_{RMS}	35	70	105	140	280	420	V
Maximum DC blocking voltage	V_{DC}	50	100	150	200	400	600	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	3						A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load	I_{FSM}	75						A
Maximum Instantaneous Forward Voltage (Pulse test: tp=300us, δ < 1%) @ 3.0A / Ta=25℃ @ 3.0A / Ta=150℃	V_F	0.875 0.710				1.25 1.05		V
Maximum Reverse Current (Pulse test: tp=300us, δ < 1%) Ta=25 ℃ Ta=150 ℃	I_R	5 150				10 250		uA
Max Reverse Recovery Time(Note 1)	Trr	25				50		ns
Max Reverse Recovery Time(Note 2)	Trr	35				75		ns
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$	11						$^{O}C/W$
Operating Temperature Range	T_J	-65 to + 175						^{O}C
Storage Temperature Range	T_{STG}	-65 to + 175						^{O}C

Note1: Reverse Recovery Time Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note2: Reverse Recovery Test Conditions:I_F=1A, dI/dt=50A/us, V_R=30V, I_{RR}=10%I_{RM}

Note3: Mount on Cu-Pad Size 10.0mm x 10.0mm x 1.6mm on P.C.B

RATINGS AND CHARACTERISTIC CURVES (MUR305S THRU MUR360S)

Fig.1 Maximum Forward Current Derating Curve

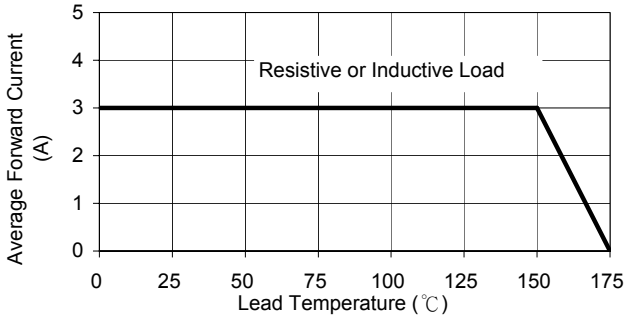


Fig. 2 Maximum Forward Surge Current

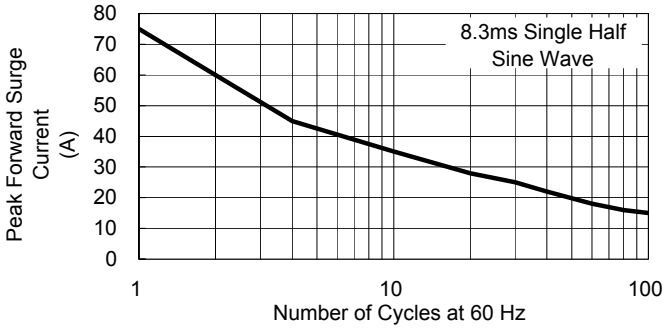


Fig. 3 Typical Forward Characteristics (MURS305S~320S)

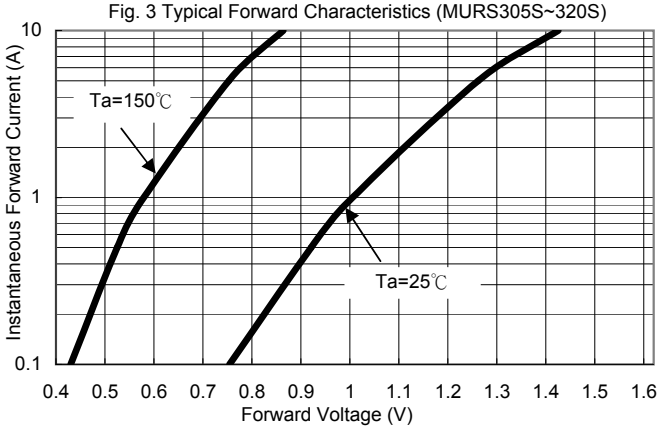


Fig. 4 Typical Forward Characteristics (MURS340S~360S)

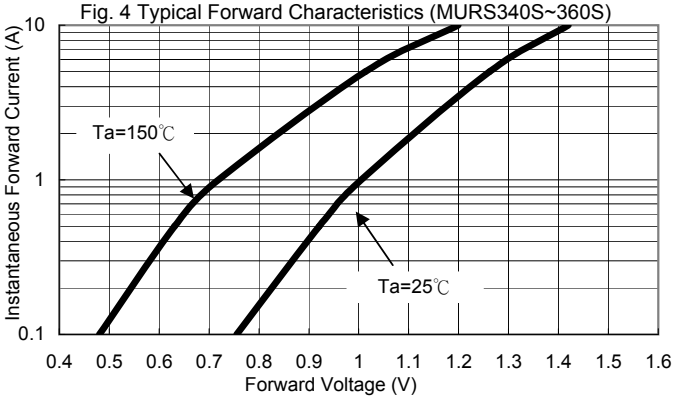


Fig. 5 Typical Reverse Characteristics (MURS305S~320S)

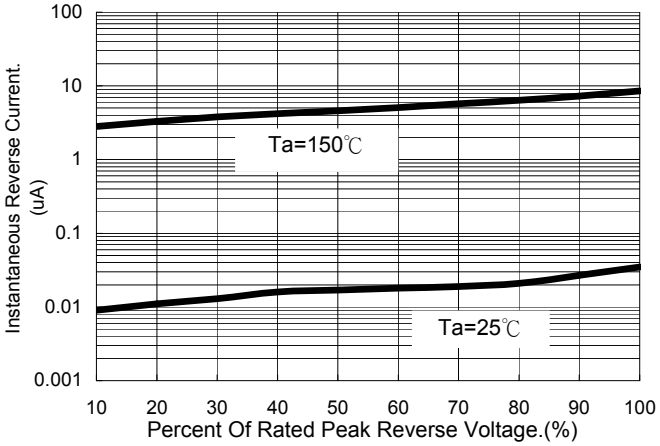


Fig. 6 Typical Reverse Characteristics (MURS340S~360S)

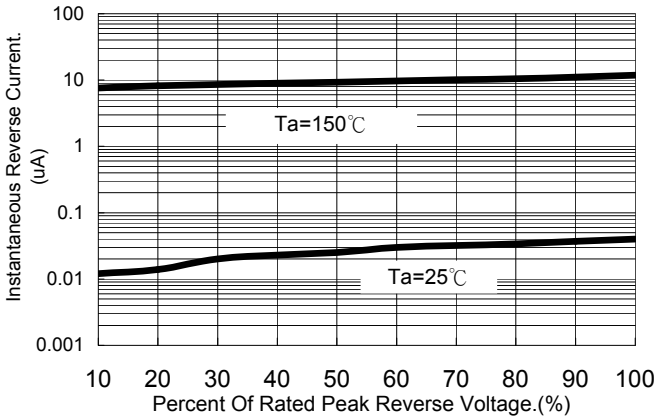


Fig. 7 Typical Junction Capacitance