



RoHS
COMPLIANCE



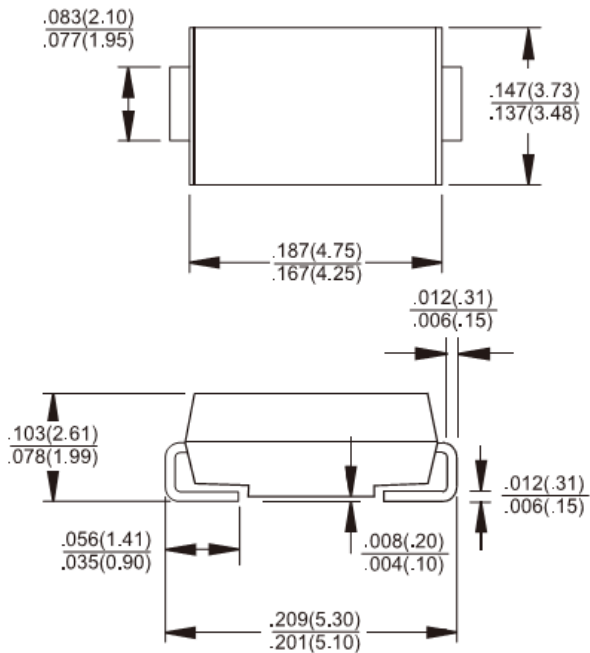
MUR105S - MUR160S

1.0 AMP. Surface Mount Ultrafast Power Rectifiers

SMB/DO-214AA

Features

- ◇ For surface mounted application
- ◇ Easy pick and place
- ◇ Glass passivated junction chip
- ◇ Low profile package
- ◇ Built-in strain relief
- ◇ Qualified as per AEC-Q101
- ◇ Ideal for automated placement
- ◇ Ultrafast recovery time for high efficiency
- ◇ Low forward voltage, low power loss
- ◇ High temperature soldering guaranteed:
260°C/10 seconds on terminals
- ◇ Plastic material used carriers Underwriters
Laboratory Classification 94V-0
- ◇ Epitaxial construction
- ◇ Green compound with suffix "G" on packing
code & prefix "G" on datecode



Mechanical Data

- ◇ Case: SMB/DO-214AA
- ◇ Molding Compound meet UL 94V-0 flammability rating
- ◇ Terminals: Pure tin plated, leads free, solderable
per MIL-STD-750, Method 2026
- ◇ Polarity: Indicated by cathode band
- ◇ Weight: 0.097 grams

Dimensions in inches and (millimeters)

Marking Diagram



- MUR1XXS = Specific Device Code
- G = Green Compound
- Y = Year
- M = Work Month

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	MUR 105S	MUR 110S	MUR 115S	MUR 120S	MUR 140S	MUR 160S	Units
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	$I_{F(AV)}$	1.0						A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	40				35		A
Maximum Instantaneous Forward Voltage (Note 1) @ 1.0A @ $T_A=25^\circ\text{C}$ @ $T_A=150^\circ\text{C}$	V_F	0.875 0.710				1.25 1.05		V
Maximum DC Reverse Current at Rated DC Blocking Voltage @ $T_A=25^\circ\text{C}$ @ $T_A=150^\circ\text{C}$	I_R	2 50				5 150		μA μA
Maximum Reverse Recovery Time (Note 2)	T_{rr}	25				50		ns
Maximum Reverse Recovery Time (Note 3)	T_{rr}	35				75		ns
Typical Thermal Resistance (Note 4)	$R_{\theta JL}$	17						$^\circ\text{C/W}$
Operating Temperature Range	T_J	-65 to + 175						$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to + 175						$^\circ\text{C}$

Note 1: Pulse Test with PW=300usec, 1% Duty Cycle

Note 2: Reverse Recovery Test Condition: $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$

Note 3: Reverse Recovery Test Condition: $I_F=1\text{A}$, $di/dt=50\text{A/us}$, $V_R=30\text{V}$, $I_{RR}=10\%$ IRM

Note 4: Mount on Cu-Pad Size 10mm x 10mm x 1.6mm on P.C.B.

RATINGS AND CHARACTERISTIC CURVES (MUR105S THRU MUR160S)

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

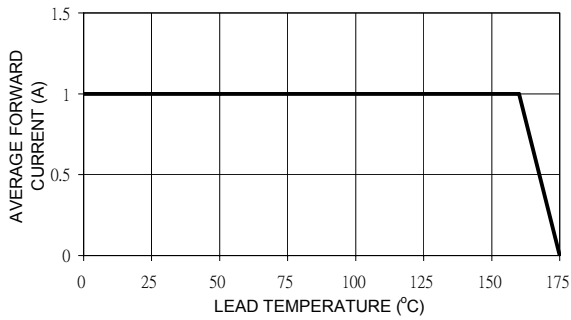


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

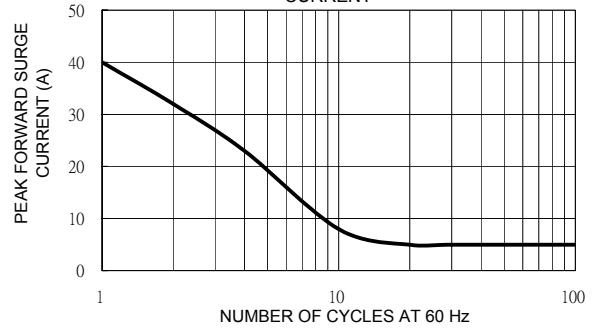


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

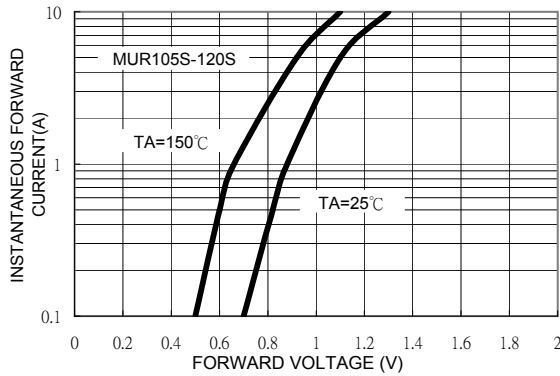


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

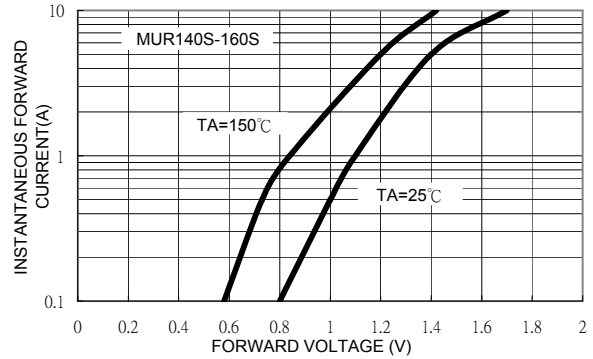


FIG. 5 TYPICAL REVERSE CHARACTERISTICS

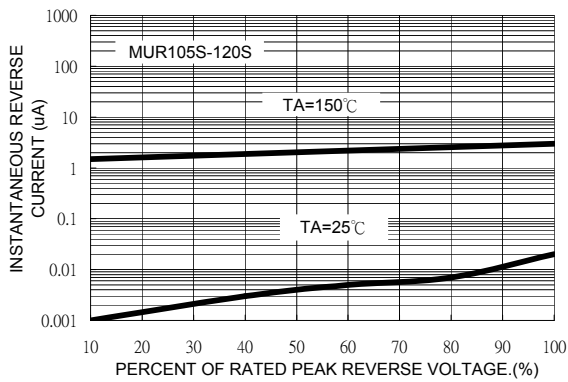


FIG. 6 TYPICAL REVERSE CHARACTERISTICS

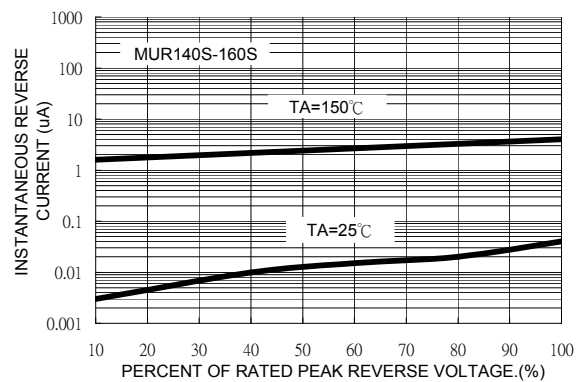


FIG. 7 TYPICAL JUNCTION CAPACITANCE

