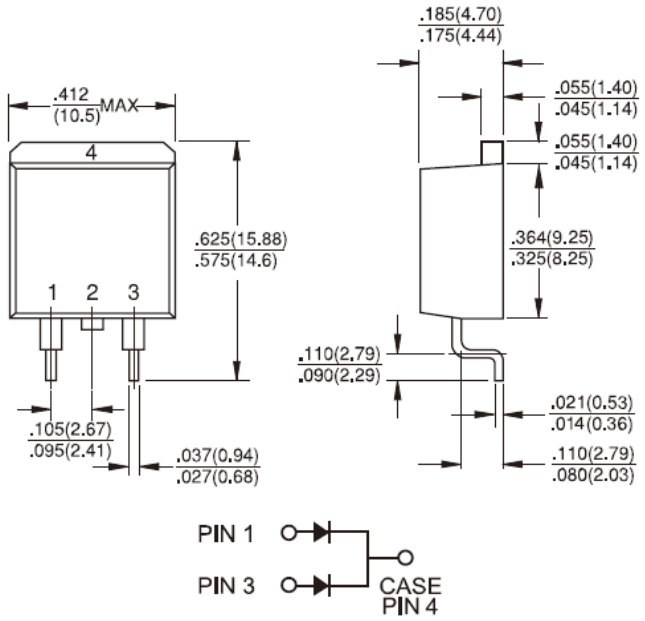
TAIWAN SEMICONDUCTOR

MBRS4060CT

40.0 AMPS. Surface Mount Schottky Barrier Rectifiers

D²PAK

RoHS COMPLIANCE



Features

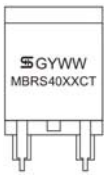
- ✧ For surface mounted application
- ✧ Plastic material used carriers Underwriters Laboratory Classigication 94V-0
- ✧ Metal to silicon junction, majority carrier conduction
- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ High surge current capability
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ✧ Guarding for overvoltage protection
- ✧ High temperature soldering guaranteed: 260℃/10s at terminals
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode
- ✧ Quailfied as per AEC-Q101

Mechanical Data

- ✧ Case: JEDEC D²PAK Molded plastic
- ✧ Terminal: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Weight: 1.53 gram

Dimensions in inches and (millimeters)

Marking Diagram



MBRS40XXCT	= Specific Device Code
G	= Green Compound
Y	= Year
WW	= Work Week

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%

Type Number	Symbol	MBRS4060CT	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	60	V
Maximum RMS Voltage	V_{RMS}	42	V
Maximum DC Blocking Voltage	V_{DC}	60	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	40	A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	300	A
Maximum Instantaneous Forward Voltage (Note 1) IF=20A @ 25℃ IF=20A @ 125℃ IF=40A @ 25℃ IF=40A @ 125℃	V_F	 0.8 0.7 1.0 0.9	V
Maximum Instantaneous Reverse Current T_A=25 ℃ at Rated DC Blocking Voltage Per Leg T_A=125 ℃	I_R	0.1 20	mA
Voltage Rate of Change (Rated V_R)	dV/dt	10000	V/uS
Typical Thermal Resistance	$R_{\theta jC}$	1.5	^{O}C/W
Operating Junction Temperature Range - In Forward Mode	T_J	- 65 to + 175	^{O}C
Storage Temperature Range	T_{STG}	- 65 to + 175	^{O}C

Note 1: Pulse Test: 300us Pulse Width, 1% Duty Cycle

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RATINGS AND CHARACTERISTIC CURVES (MBRS4060CT)

FIG.1 FORWARD CURRENT DERATING CURVE

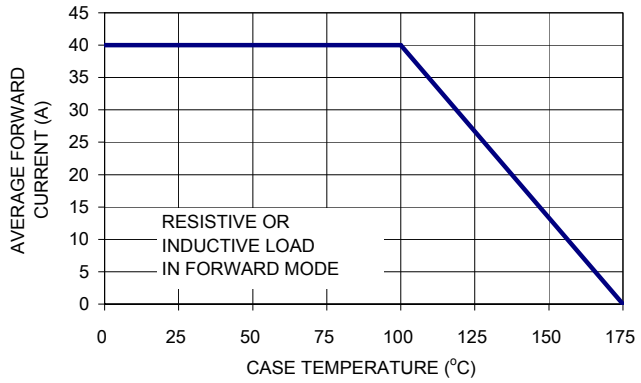


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

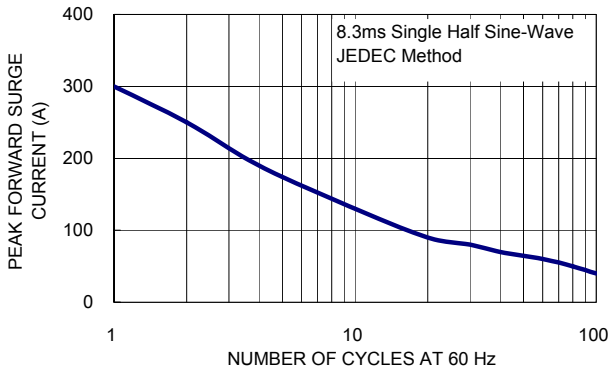


FIG. 3 TYPICAL FORWARD CHARACTERSTICS PER LEG

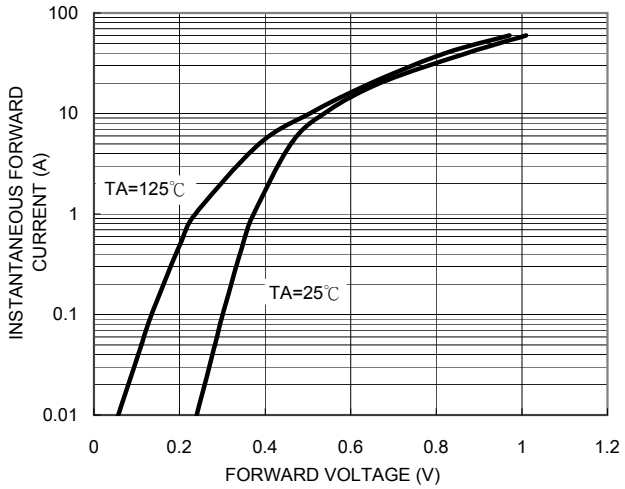


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

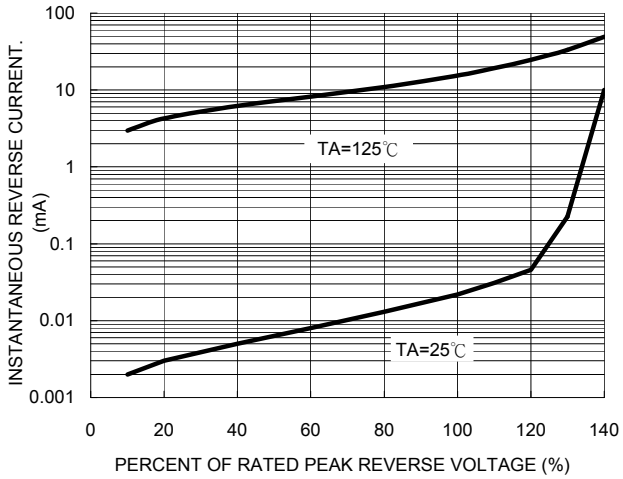


FIG. 5 TYPICAL JUNCTION CAPACITANCE PER LEG

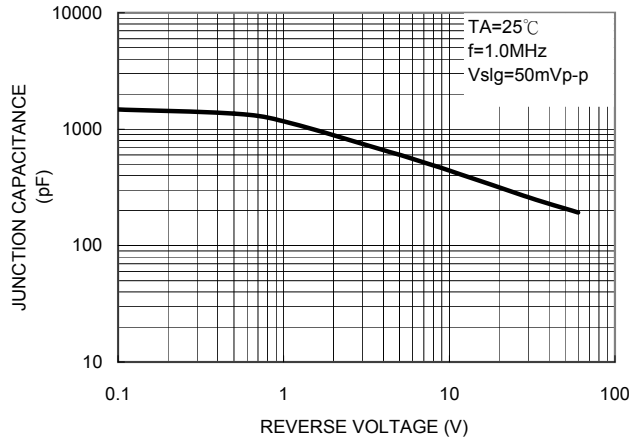
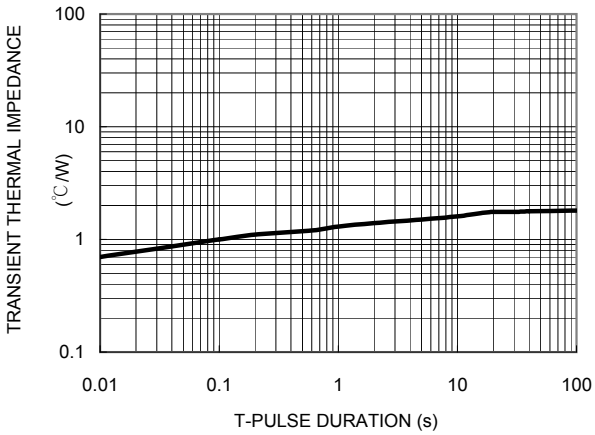


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



Version:D12