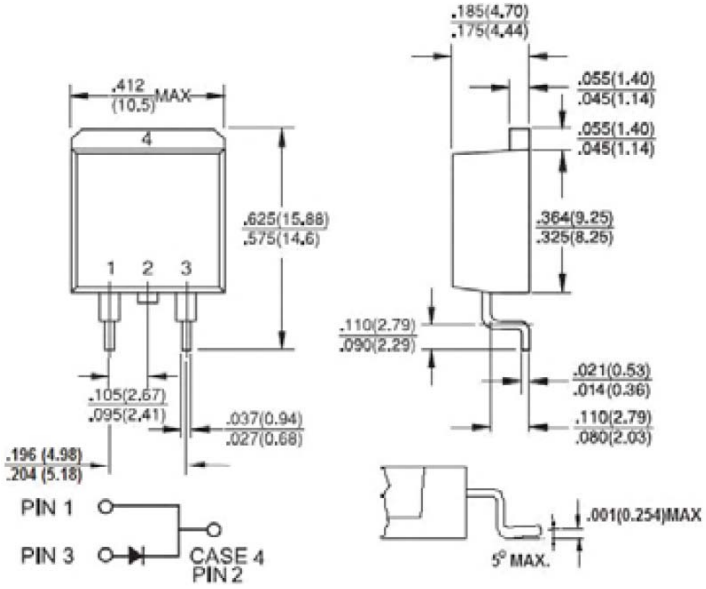
TAIWAN SEMICONDUCTOR

MBRS1635 - MBRS16150

16.0AMPS. Surface Mount Schottky Barrier Rectifiers

D²PAK

Pb RoHS COMPLIANCE



Features

- ✧ UL Recognized File # E-326854
- ✧ Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ✧ Metal silicon junction, majority carrier conductior
- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ High surge capability
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ✧ Guard-ring for transient protection
- ✧ High temperature soldering guaranteed: 260℃/10 seconds, 0.25"(6.35mm) from case
- ✧ Green compound with suffix "G" on packing code & prefix "G" on datecode

Mechanical Data

- ✧ Case: JEDEC D²PAK molded plastic body
- ✧ Terminals: Pure tin plated, lead free, solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position:Any
- ✧ Mounting torque: 5 in. - lbs, max
- ✧ Weight: 1.37 grams

Dimensions in inches and (millimeters)

Marking Diagram

MBRS16XX	= 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	MBRS 1635	MBRS 1645	MBRS 1650	MBRS 1660	MBRS 1690	MBRS 16100	MBRS 16150	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	35	45	50	60	90	100	150	V
Maximum RMS Voltage	V_{RMS}	24	31	35	42	63	70	105	V
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	90	100	150	V
Maximum Average Forward Rectified Current at T_C=125℃	$I_{F(AV)}$	16							A
Peak Repetitive Forward Current (Rated VR, Square Wave, 20KHz) at Tc=125℃	I_{FRM}	32							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150							A
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1		0.5					A
Maximum Instantaneous Forward Voltage (Note 2) I_F=16A, T_A=25℃ I_F=16A, T_A=125℃	V_F	0.63 0.57		0.75 0.65		0.85 0.82		0.95 0.92	V
Maximum Reverse Current @ Rated VR T_A=25 ℃ T_A=125 ℃	I_R	0.5 15		10		0.3 7.5		0.1 5	mA
Typical Thermal Resistance	$R_{\theta jC}$	1.5							°C/W
Operating Temperature Range	T_J	- 65 to + 150							°C
Storage Temperature Range	T_{STG}	- 65 to + 175							°C

Note 1: 2.0uS Pulse Width, f=1.0KHz

Note 2: Pulse Test : 300uS Pulse Width, 1% Duty Cycle

TAIWAN SEMICONDUCTOR

RATINGS AND CHARACTERISTIC CURVES (MBRS1635 THRU MBRS16150)

FIG.1 FORWARD CURRENT DERATING CURVE

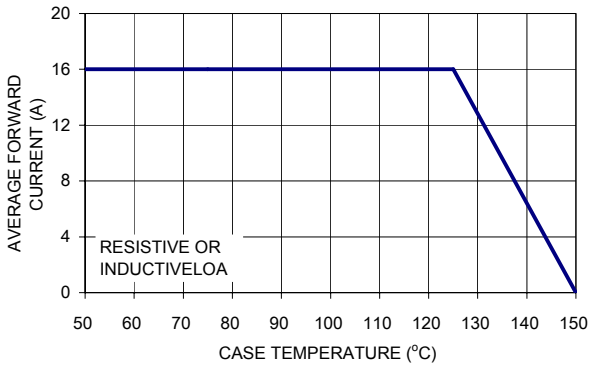


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

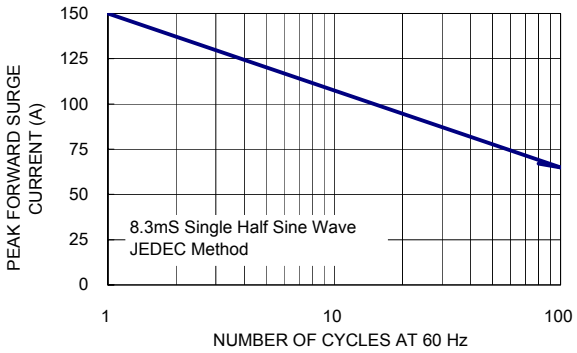


FIG. 3 TYPICAL FORWARD CHARACTERISRICS

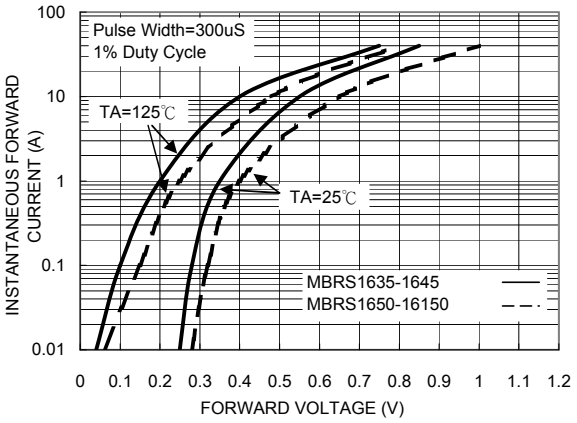


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

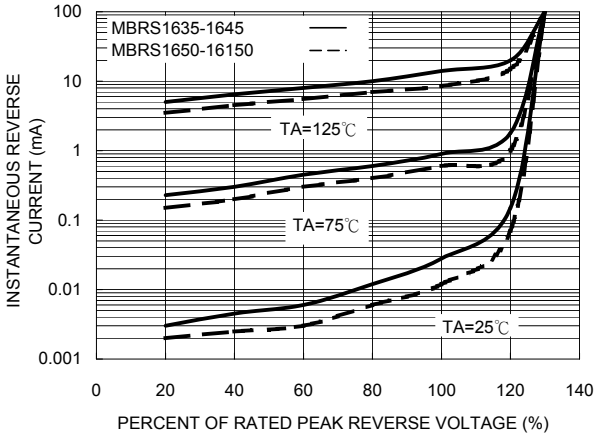


FIG. 5 TYPICAL JUNCTION CAPACITANCE

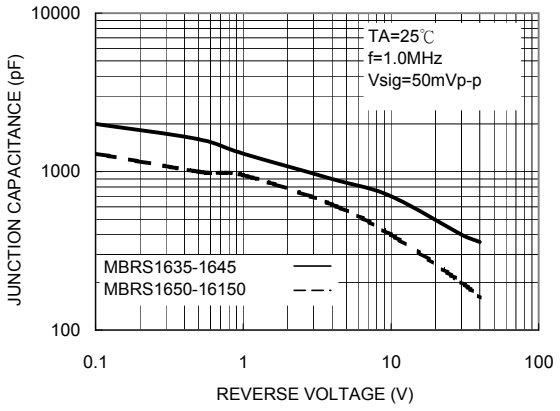
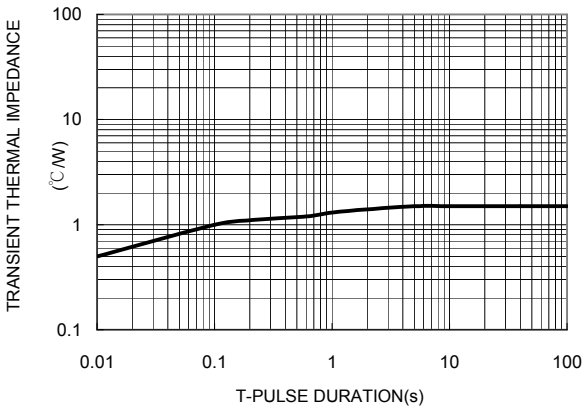


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE



Version:F11