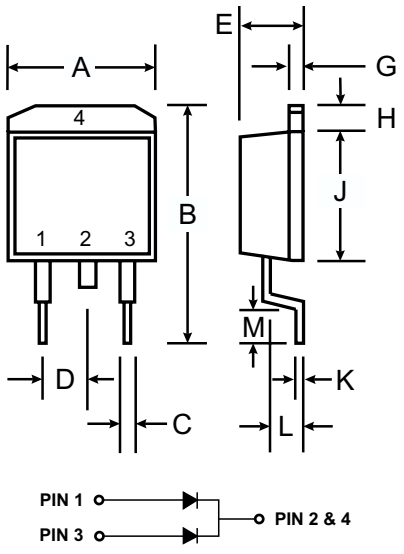
MBRB1530CT - MBRB1545CT

15A SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 150A Peak
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Plastic Material - UL Flammability Classification 94V-0



D²PAK		
Dim	**Min**	**Max**
A	9.65	10.69
B	14.60	15.88
C	0.51	1.14
D	2.29	2.79
E	4.37	4.83
G	1.14	1.40
H	1.14	1.40
J	8.25	9.25
K	0.30	0.64
L	2.03	2.92
M	2.29	2.79
All Dimensions in mm		

Mechanical Data

- Case: D²PAK Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Approx. Weight: 1.7 grams
- Mounting Position: Any
- Marking: Type Number

Maximum Ratings and Electrical Characteristics @ T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic	Symbol	MBRB 1530CT	MBRB 1535CT	MBRB 1540CT	MBRB 1545CT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	35	40	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	24.5	28	31.5	V
Average Rectified Output Current @ T_C = 105°C	I_O	15				A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150				A
Forward Voltage, per Element (Note 4) @ I_F = 7.5A	V_{FM}	0.7				V
Voltage Rate of Change	dv/dt	10,000				V/µs
Peak Reverse Current @T_A = 25°C at Rated DC Blocking Voltage @ T_A = 100°C	I_{RM}	0.1 15				mA
Maximum Recovery Time (Note 3)	t_{rr}	30				ns
Typical Junction Capacitance (Note 2)	C_j	250				pF
Typical Thermal Resistance Junction to Terminal (Note 1)	$R_{\theta JT}$	3.0				K/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150				°C

Notes: 1. Thermal resistance: junction to terminal, unit mounted on PC board with 5.0 mm² (0.013 mm thick) copper pad as heat sink.
2. Measured at 1.0 MHz and applied reverse voltage of 4.0V DC.
3. Reverse recovery test conditions: I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A (see figure 1).
4. 300µs pulse width, 2% duty cycle.

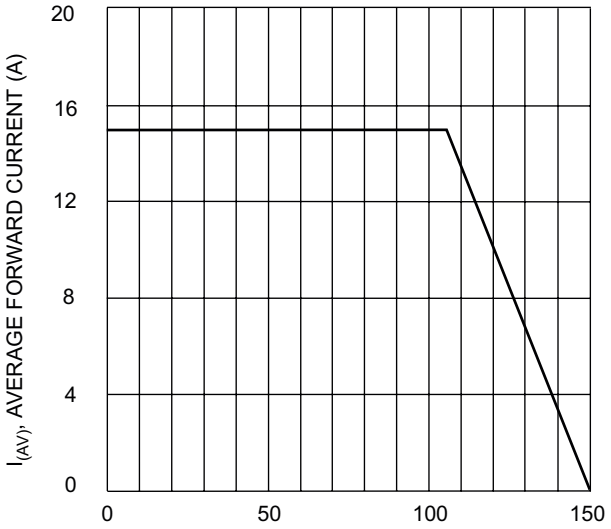


Fig. 1 Fwd Current Derating Curve

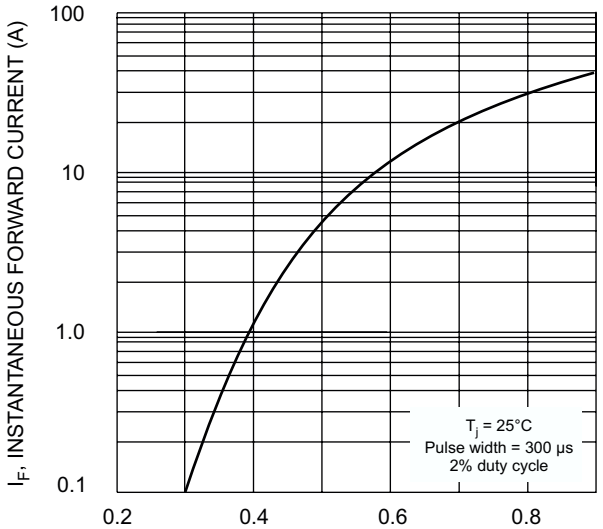


Fig. 2 Typical Fwd Characteristics per Element

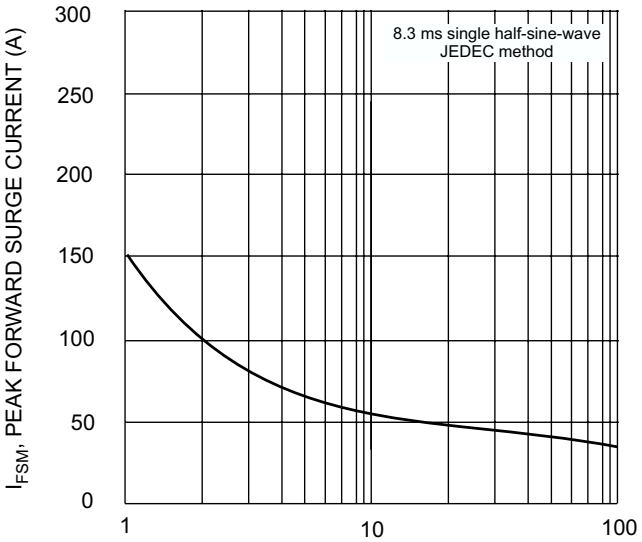


Fig. 3 Max Non-Repetitive Surge Current

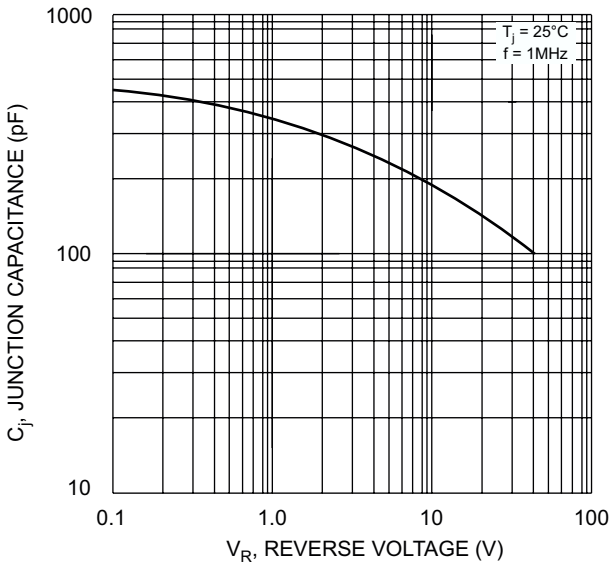


Fig. 4 Typical Junction Capacitance

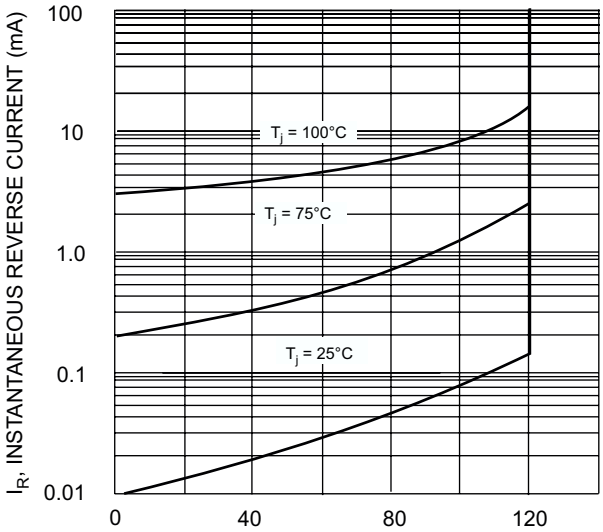


Fig. 5 Typical Reverse Characteristics, per element