MBR2535CT - MBR2560CT

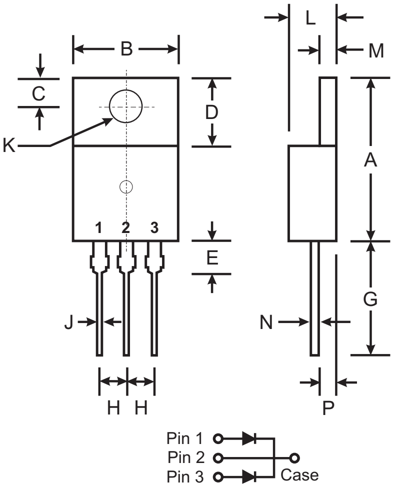
30A SCHOTTKY BARRIER RECTIFIER

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
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- **Lead Free Finish, RoHS Compliant (Note 4)**

Mechanical Data

- Case: TO-220AB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish – Bright Tin. Solderable per MIL-STD-202, Method 208
- Polarity: As Marked on Body
- Marking: Type Number
- Weight: 2.24 grams (approx.)



TO-220AB		
Dim	**Min**	**Max**
A	14.48	15.75
B	10.00	10.40
C	2.54	3.43
D	5.90	6.40
E	2.80	3.93
G	12.70	14.27
H	2.40	2.70
J	0.69	0.93
K	3.54	3.78
L	4.07	4.82
M	1.15	1.39
N	0.30	0.50
P	2.04	2.79
All Dimensions in mm		

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	MBR2535CT	MBR2545CT	MBR2550CT	MBR2560CT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	35	45	50	60	V
RMS Reverse Voltage	$V_{R(RMS)}$	25	32	35	42	V
Average Rectified Output Current @ $T_C = 130°C$	I_O	30				A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150				A
Peak Repetitive Reverse Surge Current (Note 3)	I_{RRM}	1.0		0.5		A
Forward Voltage Drop @ $I_F = 15.0A, T_C = 25°C$ @ $I_F = 15.0A, T_C = 125°C$ @ $I_F = 30.0A, T_C = 25°C$ @ $I_F = 30.0A, T_C = 125°C$	V_{FM}	— — 0.82 0.73		0.75 0.65 — —		V
Peak Reverse Current at Rated DC Blocking Voltage @ $T_C = 25°C$ @ $T_C = 125°C$	I_{RM}	0.2 40		1.0 50		mA
Typical Total Capacitance (Note 2)	C_T	750		500		pF
Typical Thermal Resistance Junction to Case (Note 1)	$R_{\theta JC}$	1.5				°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150				°C

Notes:
1. Thermal resistance junction to case mounted on heatsink.
2. Measured at 1.0MHz and Applied Reverse Voltage of 4.0V DC.
3. 2.0μs pulse width, f = 1.0KHz.
4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7.*

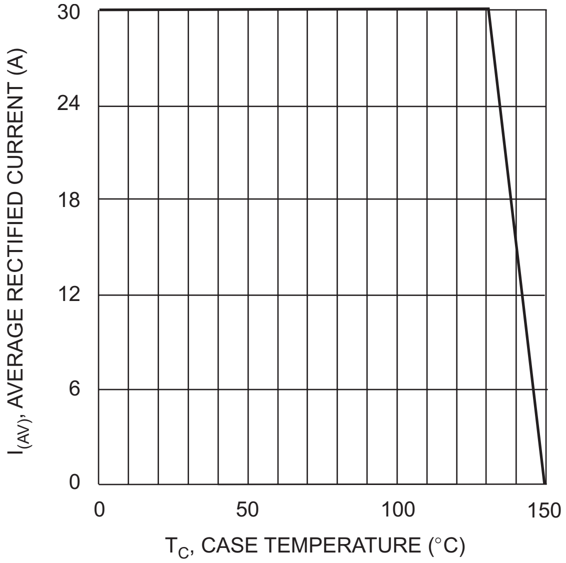


Fig. 1 Forward Derating Curve

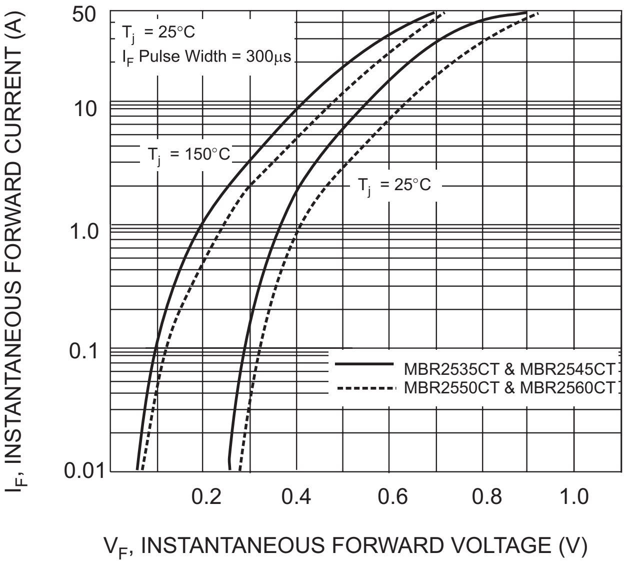


Fig. 2 Typical Forward Characteristics

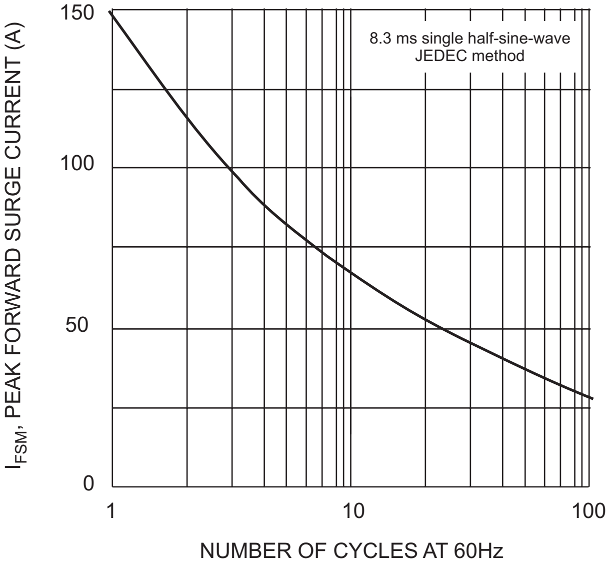


Fig. 3 Maximum Non-Repetitive Surge Current

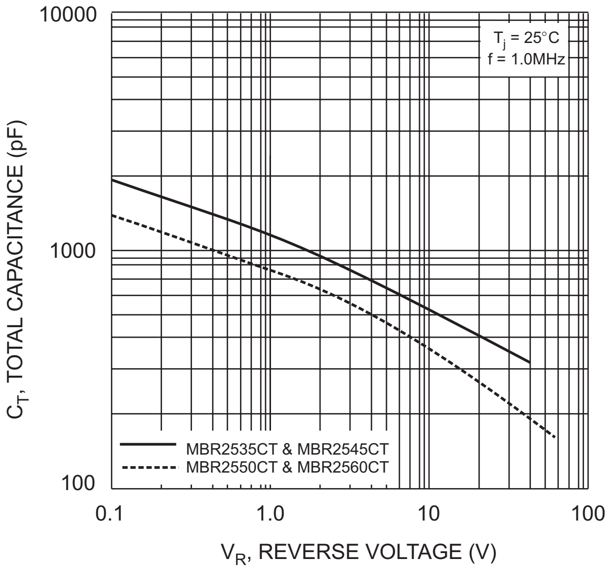


Fig. 4 Typical Total Capacitance (per element)

Ordering Information (Note 5)

Device	Packaging	Shipping
MBR25xxCT*	TO-220AB	50/Tube

* xx = Device type, e.g. MBR2545CT

Notes: 4. For packaging details, visit our website at http://www.diodes.com/datasheets/ap02008.pdf.