

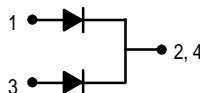
SWITCHMODE™ Power Rectifiers

... using the Schottky Barrier principle with a platinum barrier metal. These state-of-the-art devices have the following features:

- Guardring for Stress Protection
- Low Forward Voltage
- 150°C Operating Junction Temperature
- Guaranteed Reverse Avalanche

Mechanical Characteristics:

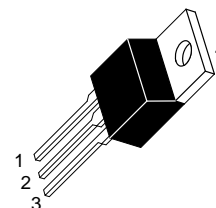
- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube
- Marking: B2535, B2545



MBR2535CT
MBR2545CT

MBR2545CT is a
Motorola Preferred Device

**SCHOTTKY BARRIER
RECTIFIERS**
30 AMPERES
35 and 45 VOLTS



CASE 221A-06
TO-220AB
PLASTIC

MAXIMUM RATINGS

Rating	Symbol	MBR2535CT	MBR2545CT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	35	45	Volts
Average Rectified Forward Current (Rated V_R) $T_C = 130^\circ\text{C}$	$I_{F(AV)}$	30	30	Amps
Peak Repetitive Forward Current Per Diode Leg (Rated V_R , Square Wave, 20 kHz) $T_C = 130^\circ\text{C}$	I_{FRM}	30	30	Amps
Nonrepetitive Peak Surge Current per Diode Leg (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	150	150	Amps
Peak Repetitive Reverse Surge Current (2.0 μs , 1.0 kHz)	I_{RRM}	1.0	1.0	Amp
Operating Junction Temperature	T_J	-65 to +150	-65 to +150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-65 to +175	-65 to +175	$^\circ\text{C}$
Voltage Rate of Change (Rated V_R)	dv/dt	1000	1000	$\text{V}/\mu\text{s}$

THERMAL CHARACTERISTICS PER DIODE LEG

Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.5	1.5	$^\circ\text{C}/\text{W}$

ELECTRICAL CHARACTERISTICS PER DIODE LEG

Maximum Instantaneous Forward Voltage (1) ($i_F = 30$ Amps, $T_C = 125^\circ\text{C}$) ($i_F = 30$ Amps, $T_C = 25^\circ\text{C}$)	V_F	0.73 0.82	0.73 0.82	Volts
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, $T_C = 125^\circ\text{C}$) (Rated dc Voltage, $T_C = 25^\circ\text{C}$)	i_R	40 0.2	40 0.2	mA

(1) Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.

SWITCHMODE is a trademark of Motorola, Inc.

Preferred devices are Motorola recommended choices for future use and best overall value.

MBR2535CT MBR2545CT

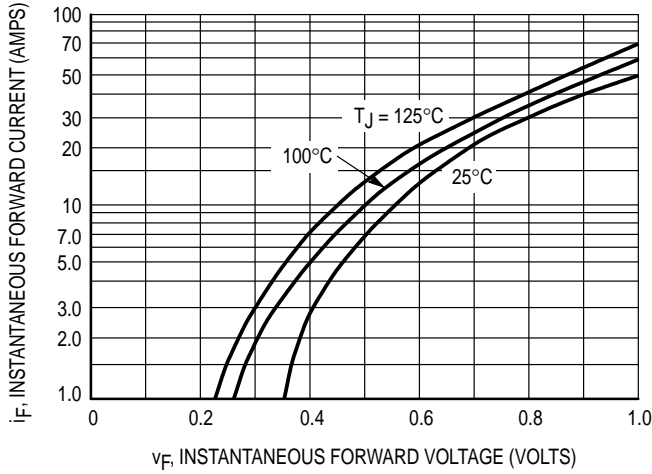


Figure 1. Typical Forward Voltage

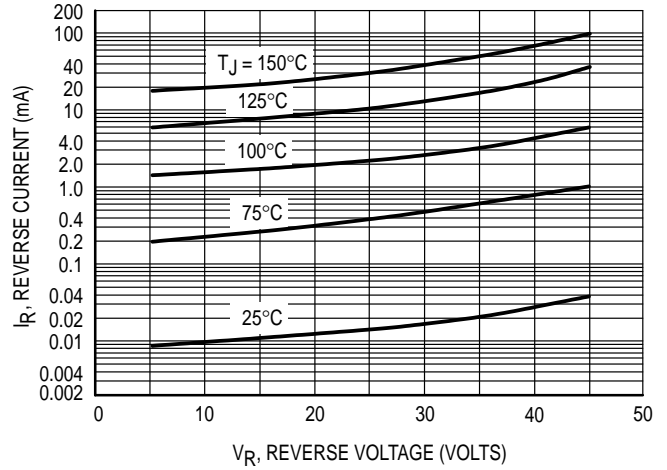


Figure 2. Typical Reverse Current

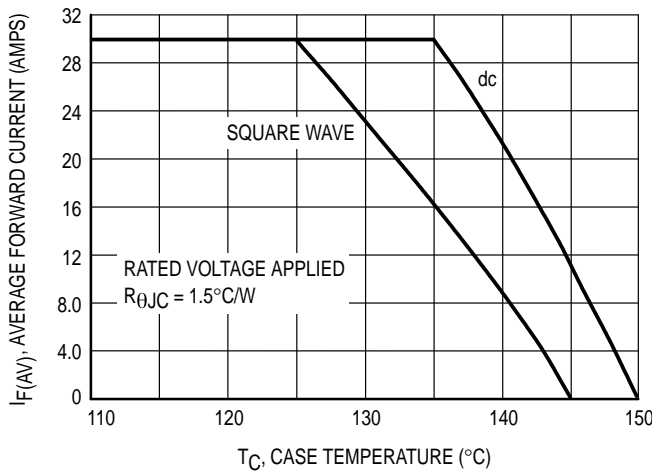


Figure 3. Current Derating, Case

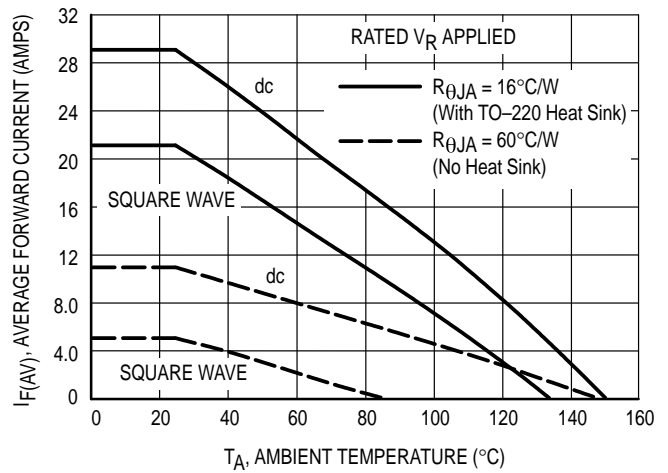


Figure 4. Current Derating, Ambient

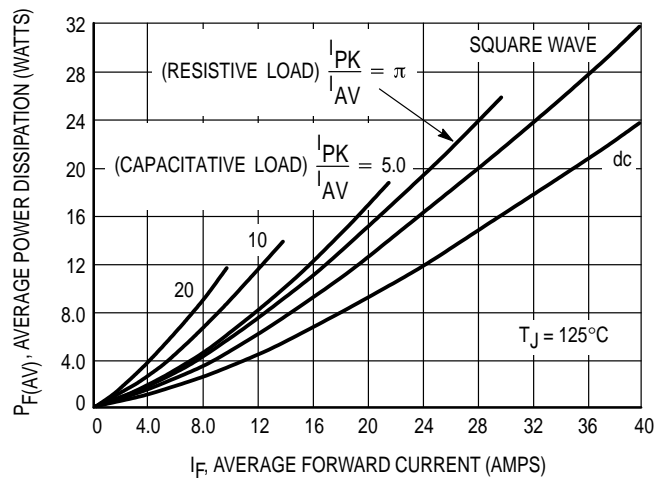
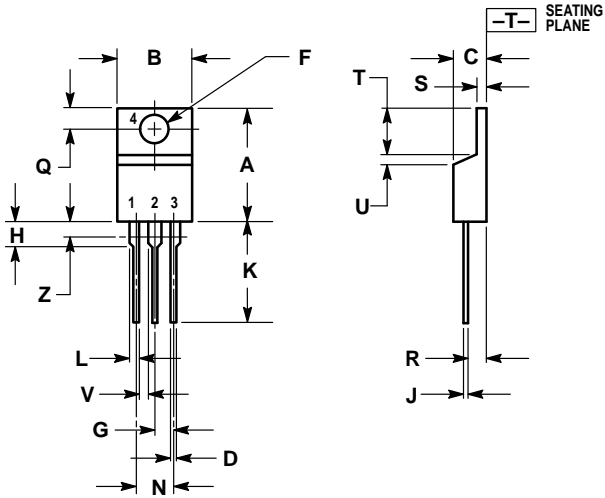


Figure 5. Forward Power Dissipation


PACKAGE DIMENSIONS



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.
 3. DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.570	0.620	14.48	15.75
B	0.380	0.405	9.66	10.28
C	0.160	0.190	4.07	4.82
D	0.025	0.035	0.64	0.88
F	0.142	0.147	3.61	3.73
G	0.095	0.105	2.42	2.66
H	0.110	0.155	2.80	3.93
J	0.018	0.025	0.46	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.060	1.15	1.52
N	0.190	0.210	4.83	5.33
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.15	1.39
T	0.235	0.255	5.97	6.47
U	0.000	0.050	0.00	1.27
V	0.045	—	1.15	—
Z	—	0.080	—	2.04

CASE 221A-06
(TO-220AB)
ISSUE Y

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