

Advance Information

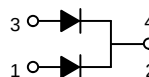
SWITCHMODE™ Power Rectifier

... using the Schottky Barrier principle with a platinum barrier metal. This state-of-the-art device has the following features:

- Dual Diode Construction — Terminals 1 and 3 May Be Connected for Parallel Operation at Full Rating
- 45 V Blocking Voltage
- Low Forward Voltage Drop
- Guardring for Stress Protection
- 150°C Operating Junction Temperature
- Guaranteed Reverse Avalanche

Mechanical Characteristics

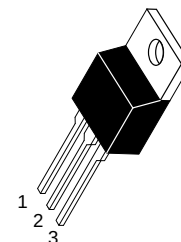
- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 Units Per Plastic Tube
- Marking: B3045



MBR3045ST

Motorola Preferred Device

**SCHOTTKY BARRIER
RECTIFIER
30 AMPERES
45 VOLTS**



**CASE 221A-06, STYLE 6
(TO-220AB)**

MAXIMUM RATINGS

Rating	Symbol	Max	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	45	Volts
Average Rectified Current $T_C = 130^\circ\text{C}$	$I_F(AV)$	30 15	Amps
Peak Repetitive Forward Current, Per Diode (Square Wave, $V_R = 45\text{ V}$, 20 kHz)	I_{FRM}	30	Amps
Non Repetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	I_{FSM}	150	Amps
Peak Repetitive Reverse Current, Per Diode (2.0 μs , 1.0 kHz)	I_{RRM}	2.0	Amps
Operating Junction Temperature	T_J	-65 to +150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-65 to +175	$^\circ\text{C}$
Peak Surge Junction Temperature (Forward Current Applied)	$T_{J(pk)}$	175	$^\circ\text{C}$
Voltage Rate of Change (Rated V_R)	dV/dt	10000	$\text{V}/\mu\text{s}$

THERMAL CHARACTERISTICS PER DIODE

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

Instantaneous Forward Voltage (1)	$(I_F = 30\text{ Amp}, T_C = 25^\circ\text{C})$ $(I_F = 30\text{ Amp}, T_C = 125^\circ\text{C})$ $(I_F = 20\text{ Amp}, T_C = 125^\circ\text{C})$	V_F	0.76 0.72 0.60	Volts
Instantaneous Reverse Current (1)	$(V_R = 45\text{ Volts}, T_C = 25^\circ\text{C})$ $(V_R = 45\text{ Volts}, T_C = 125^\circ\text{C})$	I_R	0.2 40	mA

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

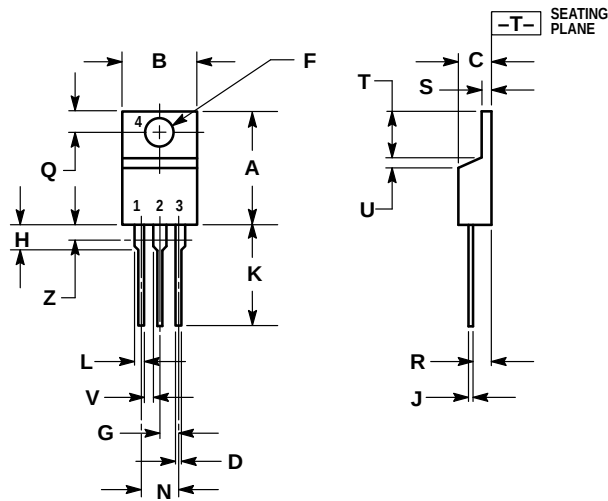
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This document contains information on a new product. Specifications and information herein are subject to change without notice.

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



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

STYLE 6:

- PIN 1. ANODE
2. CATHODE
3. ANODE
4. CATHODE

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

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