

# New Jersey Semi-Conductor Products, Inc.

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**MBR3520**  
**MBR3535**  
**MBR3545**

**SCHOTTKY BARRIER  
RECTIFIERS**

**35 AMPERES  
20 to 45 VOLTS**

## MAXIMUM RATINGS

Rating	Symbol	MBR3520	MBR3535	MBR3545	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	20	35	45	Volts
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20 kHz, $T_C = 110^\circ\text{C}$ )	$I_{FRM}$	70			Amps
Average Rectified Forward Current (Rated $V_R$ , $T_C = 110^\circ\text{C}$ )	$I_{FAV}$	35			Amps
Peak Repetitive Reverse Surge Current (2.0 $\mu\text{s}$ , 1.0 kHz) See Figure 8	$I_{RRM}$	2.0			Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	$I_{FSM}$	600			Amps
Operating Junction Temperature	$T_J$	-65 to +150			$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-65 to +175			$^\circ\text{C}$
Voltage Rate of Change (Rated $V_R$ )	$dv/dt$	1000			$\text{V}/\mu\text{s}$

## THERMAL CHARACTERISTICS

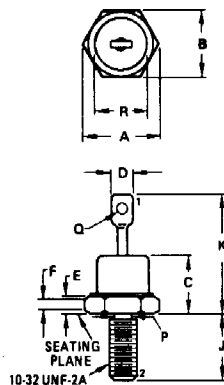
Characteristic	Symbol	Typ	Max	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	1.3	1.5	$^\circ\text{C}/\text{W}$

## ELECTRICAL CHARACTERISTICS PER DIODE

Characteristic	Symbol	Typ	Max	Unit
Instantaneous Forward Voltage (1) ( $I_F = 35$ Amp, $T_C = 125^\circ\text{C}$ ) ( $I_F = 35$ Amp, $T_C = 25^\circ\text{C}$ ) ( $I_F = 70$ Amp, $T_C = 125^\circ\text{C}$ )	$V_F$	0.49 0.55 0.60	0.55 0.63 0.69	Volts
Instantaneous Reverse Current (1) (Rated Voltage, $T_C = 125^\circ\text{C}$ ) (Rated Voltage, $T_C = 25^\circ\text{C}$ )	$I_R$	60 0.1	100 0.3	mA
Capacitance ( $V_R = 1.0$ Vdc, 100 kHz $> f >$ 1.0 MHz, $T_C = 25^\circ\text{C}$ )	$C_T$	3000	3700	pF

\*H and H1 devices include extra testing. See Figure 10.

(1) Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle = 2.0%



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	11.94	12.83	0.470	0.505
B	10.77	11.10	0.424	0.437
C	-	10.29	-	0.405
D	-	6.35	-	0.250
E	1.91	4.45	0.075	0.175
F	1.52	-	0.060	-
J	10.72	11.51	0.422	0.463
K	-	20.32	-	0.800
P	4.14	4.80	0.163	0.189
Q	1.52	-	0.060	-
R	-	10.77	-	0.424

STYLE 2:  
TERM 1. ANODE  
2. CATHODE