



MBR0530, NRVB0530

Surface Mount Schottky Power Rectifier

Plastic SOD-123 Package

Features

- Guardring for Stress Protection
- Low Forward Voltage
- 125°C Operating Junction Temperature
- Epoxy Meets UL 94, V-0 @ 0.125 in
- Package Designed for Optimal Automated Board Assembly
- NRVB Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- These Devices are Pb-Free and are RoHS Compliant*

Mechanical Characteristics

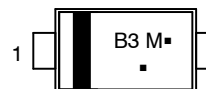
- Polarity Designator: Cathode Band
- Weight: 11.7 mg (approximately)
- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 Seconds

**SCHOTTKY BARRIER
RECTIFIER
0.5 AMPERES
30 VOLTS**



SOD-123
CASE 425
STYLE 1

MARKING DIAGRAM



B3 = Device Code
M = Date Code
▪ = Pb-Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping [†]
MBR0530T1G	SMB (Pb-Free)	3,000 / Tape & Reel **
NRVB0530T1G	SMB (Pb-Free)	3,000 / Tape & Reel **
MBR0530T3G	SMB (Pb-Free)	10,000 / Tape & Reel ***
NRVB0530T3G	SMB (Pb-Free)	10,000 / Tape & Reel ***

** 8 mm Tape, 7" Reel

*** 8 mm Tape, 13" Reel

MBR0530, NRVB0530

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	V
Average Rectified Forward Current (Rated V_R , $T_L = 100^\circ\text{C}$)	$I_{F(AV)}$	0.5	A
Non-Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	5.5	A
Storage Temperature Range	T_{stg}	-65 to +150	$^\circ\text{C}$
Operating Junction Temperature	T_J	-65 to +125	$^\circ\text{C}$
Voltage Rate of Change (Rated V_R)	dv/dt	1000	V/ μs
ESD Rating: Machine Model = C Human Body Model = 3B		> 400 > 8000	V

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Thermal Resistance – Junction-to-Ambient (Note 1)	$R_{\theta JA}$	206	$^\circ\text{C}/\text{W}$
Thermal Resistance – Junction-to-Lead	$R_{\theta JL}$	150	$^\circ\text{C}/\text{W}$

1. 1 inch square pad size (1 x 0.5 inch for each lead) on FR4 board.

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (Note 2) ($I_F = 0.1$ Amps, $T_J = 25^\circ\text{C}$) ($I_F = 0.5$ Amps, $T_J = 25^\circ\text{C}$)	V_F	0.375 0.43	V
Maximum Instantaneous Reverse Current (Note 2) (Rated DC Voltage, $T_C = 25^\circ\text{C}$) ($V_R = 15$ V, $T_C = 25^\circ\text{C}$)	I_R	130 20	μA

2. Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2\%$.