NSR0530H

Product Preview

Schottky Barrier Diode

Schottky barrier diodes are optimized for very low forward voltage drop and low leakage current and are used in a wide range of dc-dc converter, clamping and protection applications in portable devices. NSR0530H in a SOD-323 miniature package enables designers to meet the challenging task of achieving higher efficiency and meeting reduced space requirements.

Features

- Very Low Forward Voltage Drop 370 mV @ 100 mA
- Low Reverse Current 1.4 μA @ 10 V VR
- 500 mA of Continuous Forward Current
- Very High Switching Speed
- Low Capacitance CT = 10 pF
- This is a Pb-Free Device

Typical Applications

- LCD and Keypad Backlighting
- Camera Photo Flash
- Buck and Boost dc-dc Converters
- Reverse Voltage and Current Protection
- Clamping & Protection

Markets

- Mobile Handsets
- MP3 Players
- Digital Camera and Camcorders
- Notebook PCs & PDAs
- GPS

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	30	V
Forward Current (DC)	lF	500	mA
ESD Rating: Human Body Model Machine Model	ESD	Class Class	

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

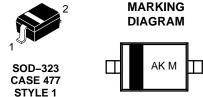


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30 V SCHOTTKY BARRIER DIODE





AK = Specific Device Code M = Month Code

ORDERING INFORMATION

Device	Package	Shipping†
NSR0530HT1G	SOD-323 (Pb-Free)	3000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

NSR0530H

THERMAL CHARACTERISTICS

Characteristic		Min	Тур	Max	Unit
Thermal Resistance Junction-to-Ambient (Note 1) Total Power Dissipation @ T _A = 25°C	R _{θJA} P _D			740 160	°C/W mW
Thermal Resistance Junction-to-Ambient (Note 2) Total Power Dissipation @ T _A = 25°C	R _{θJA} P _D			460 270	°C/W mW
Junction and Storage Temperature Range	T _J , T _{stg}			-55 to +150	°C

- Mounted onto a 4 in square FR-4 board 10 mm sq. 1 oz. Cu 0.06" thick single sided. Operating to steady state.
 Mounted onto a 4 in square FR-4 board 1 in sq. 1 oz. Cu 0.06" thick single sided. Operating to steady state.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Тур	Max	Unit
Reverse Leakage $(V_R = 10 \text{ V})$ $(V_R = 30 \text{ V})$	I _R		1.4 24	10 200	μΑ
Forward Voltage (I _F = 10 mA) (I _F = 100 mA) (I _F = 500 mA)	V _F		0.28 0.37 0.52	0.37 0.46 0.62	V
Total Capacitance (V _R = 1.0 V, f = 1 MHz)	СТ		10		pF

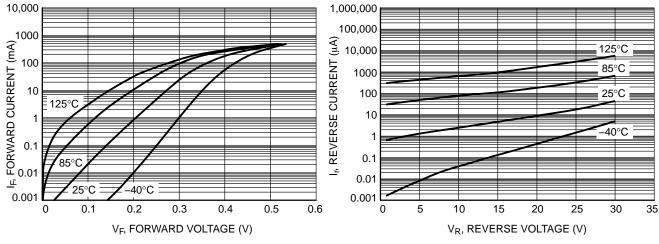


Figure 1. Forward Voltage

Figure 2. Leakage Current

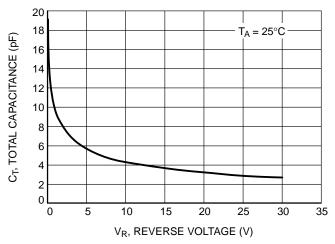
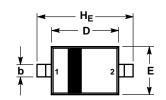


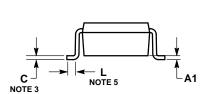
Figure 3. Total Capacitance

NSR0530H

PACKAGE DIMENSIONS

SOD-323 CASE 477-02 ISSUE H





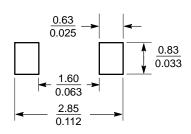


NOTES:

- 1. DIMENSIONING AND TOLERANCING PER ANSI
 Y14 5M 1982
- Y14.5M, 1982.
 2. CONTROLLING DIMENSION: MILLIMETERS.
- 3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
- 4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
- 5. DIMENSION L IS MEASURED FROM END OF RADIUS.

	MILLIMETERS			INCHES			
DIM	MIN	NOM	MAX	MIN	NOM	MAX	
Α	0.80	0.90	1.00	0.031	0.035	0.040	
A1	0.00	0.05	0.10	0.000	0.002	0.004	
А3	0.15 REF			0.006 REF			
b	0.25	0.32	0.4	0.010	0.012	0.016	
C	0.089	0.12	0.177	0.003	0.005	0.007	
D	1.60	1.70	1.80	0.062	0.066	0.070	
Е	1.15	1.25	1.35	0.045	0.049	0.053	
L	0.08			0.003			
HE	2.30	2.50	2.70	0.090	0.098	0.105	

SOLDERING FOOTPRINT*



*For additional information on our Pb–Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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