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NUR30Q

Quad Schottky Barrier Diode Array

These Schottky barrier diodes are designed for high speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniature surface mount package is excellent for hand held and portable applications where space is limited.

Features:

- Very Low Forward Voltage
- Guard Ring Protected
- Ultra Small SMD Package
- Pb−Free Package is Available

Applications:

- Ultra High−Speed Switching
- Low Current Rectification
- Low Power Consumption Applications (e.g. Hand−Held Devices)

MAXIMUM RATINGS (T_J = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	30	Volts
Forward Power Dissipation @ T_A = 25°C Derate above 25°C	P_F	 385 3.1	 mW mW/°C
Forward Current (DC)	I_F	200	mA
Junction Temperature	T_J	125	°C

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.

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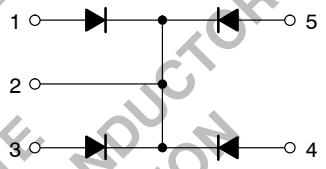
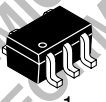
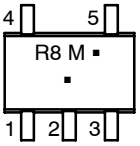
**30 VOLT
QUAD
SCHOTTKY DIODE ARRAY**





**SC−88A/SOT−353
CASE 419A
STYLE 9**

MARKING DIAGRAM



R8 = Specific Device Code
M = Date Code
▪ = Pb−Free Package

(Note: Microdot may be in either location)

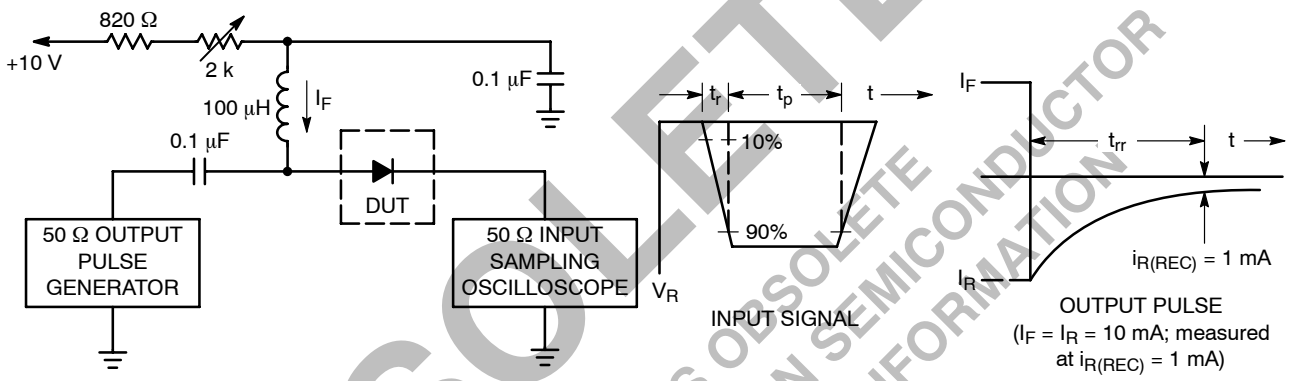
ORDERING INFORMATION

Device	Package	Shipping†
NUR30QW5T1	SC−88A	3000/Tape & Reel
NUR30QW5T1G	SC−88A (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.

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

Characteristic	Symbol	Min	Typ	Max	Unit
Total Capacitance (V_R = 1.0 V, f = 1.0 MHz)	C_T	–	10	20	pF
Reverse Leakage (V_R = 10 V)	I_R	–	1.5	30	μAdc
Forward Voltage (I_F = 0.1 mAdc)	V_F	–	0.15	0.19	Vdc
Forward Voltage (I_F = 1.0 mAdc)	V_F	–	0.21	0.25	Vdc
Forward Voltage (I_F = 10 mAdc)	V_F	–	0.28	0.30	Vdc
Forward Voltage (I_F = 100 mAdc)	V_F	–	0.36	0.41	Vdc
Forward Voltage (I_F = 200 mAdc)	V_F	–	0.41	0.50	Vdc
Reverse Recovery Time (I_F = I_R = 10 mAdc, $I_{R(REC)}$ = 1.0 mAdc) (Figure 1)	t_{rr}	–	5.0	–	ns



Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
Notes: 2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10 mA.
Notes: 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

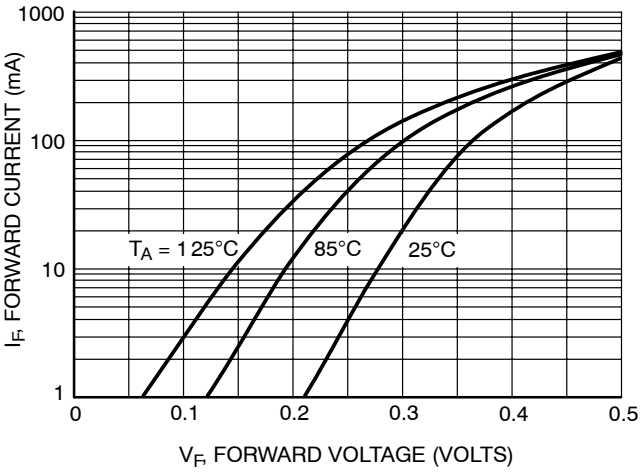


Figure 2. Forward Current as a Function of Forward Voltage; Typical Values

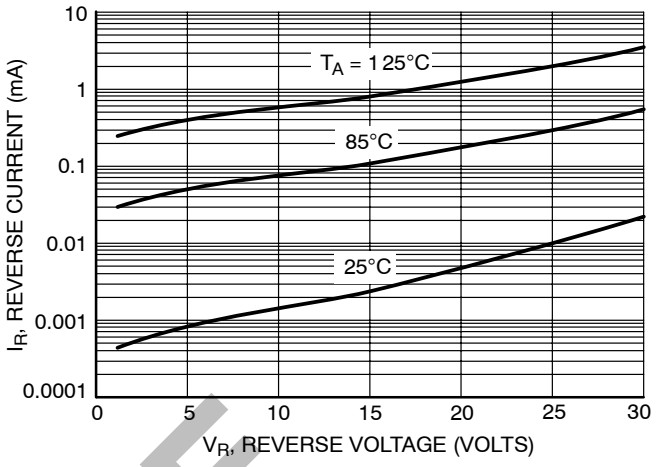


Figure 3. Reverse Current as a Function of Reverse Voltage; Typical Values

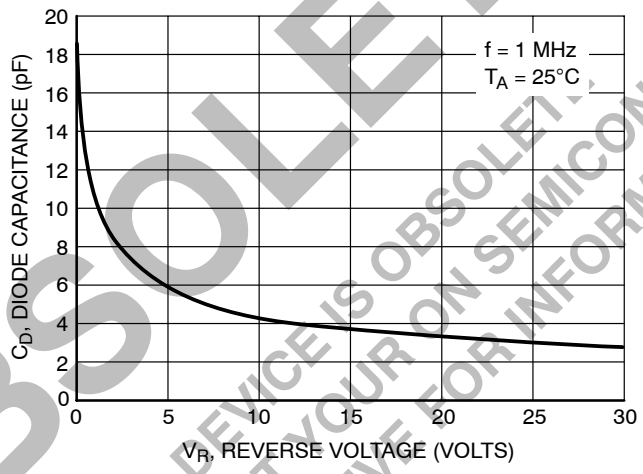
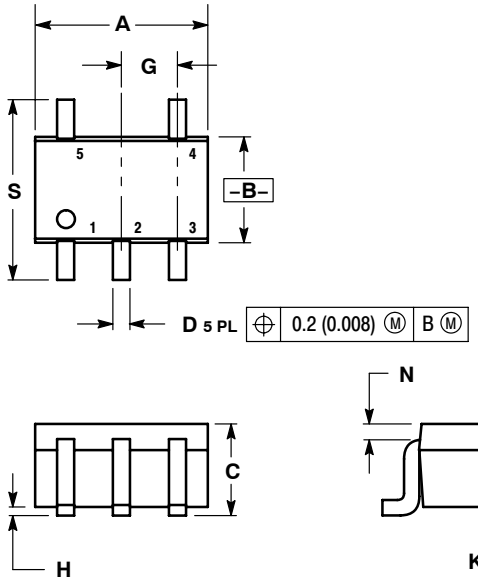


Figure 4. Diode Capacitance as a Function of Reverse Voltage; Typical Values

PACKAGE DIMENSIONS

SC−88A, SOT−353, SC−70
CASE 419A−02
ISSUE J

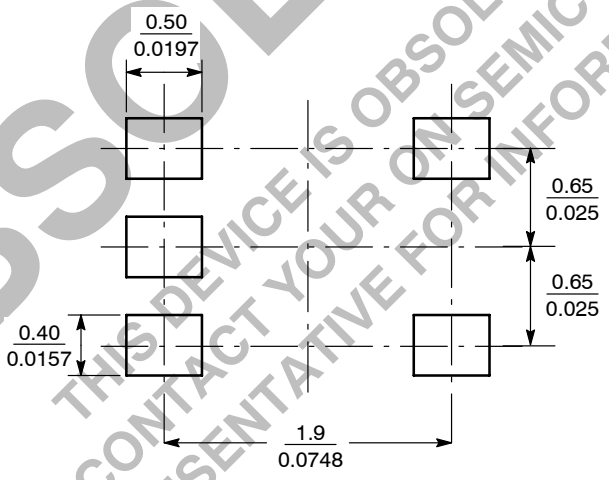


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 419A−01 OBSOLETE. NEW STANDARD 419A−02.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.031	0.043	0.80	1.10
D	0.004	0.012	0.10	0.30
G	0.026 BSC		0.65 BSC	
H	---	0.004	---	0.10
J	0.004	0.010	0.10	0.25
K	0.004	0.012	0.10	0.30
N	0.008 REF		0.20 REF	
S	0.079	0.087	2.00	2.20

STYLE 9:
PIN 1. ANODE
2. CATHODE
3. ANODE
4. ANODE
5. ANODE

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.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303−675−2175 or 800−344−3860 Toll Free USA/Canada
Fax: 303−675−2176 or 800−344−3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800−282−9855 Toll Free USA/Canada
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ON Semiconductor Website: **www.onsemi.com**

Order Literature: http://www.onsemi.com/orderlit

For additional information, please contact your local Sales Representative

NUR30Q/D