

# 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 ( $T_J = 25^\circ\text{C}$ unless otherwise noted)

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

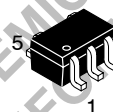
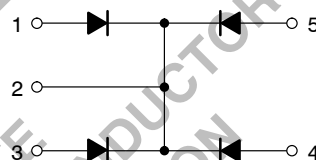
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.



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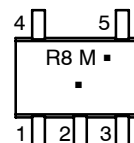
<http://onsemi.com>

### 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.

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## ELECTRICAL CHARACTERISTICS (EACH DIODE) ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

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

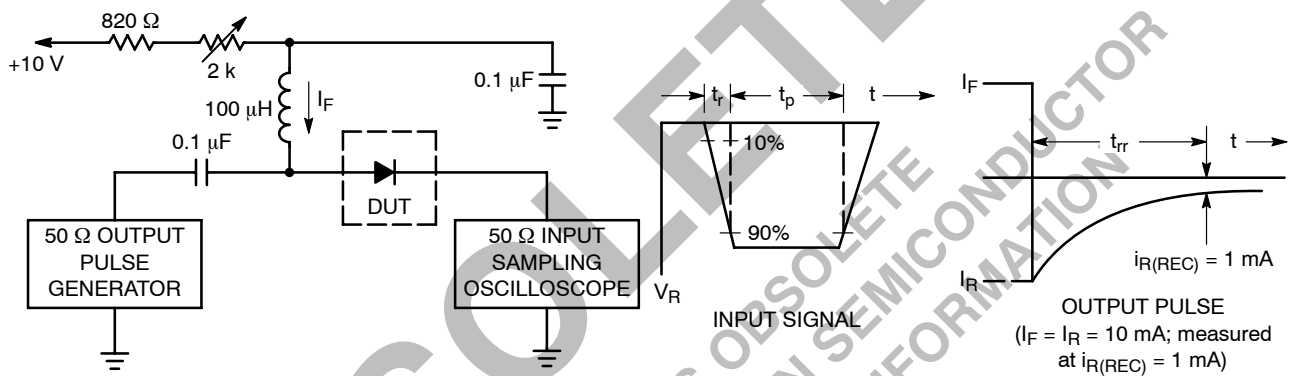
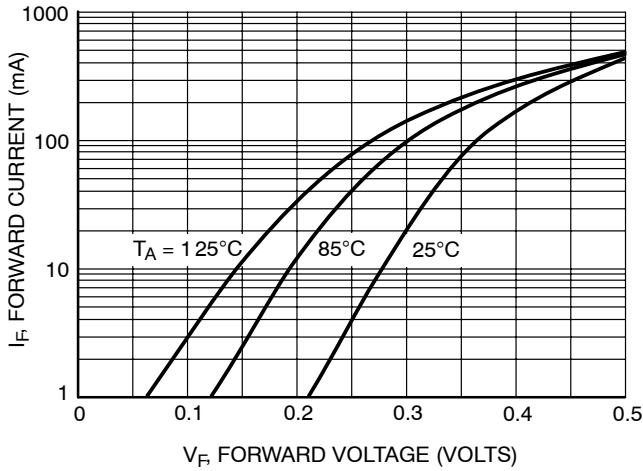
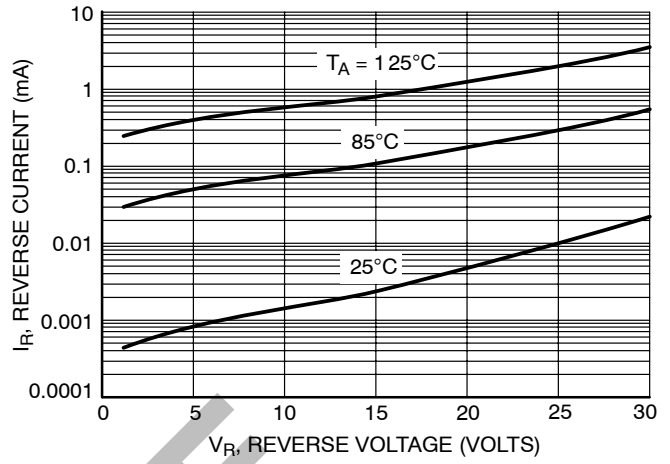


Figure 1. Recovery Time Equivalent Test Circuit

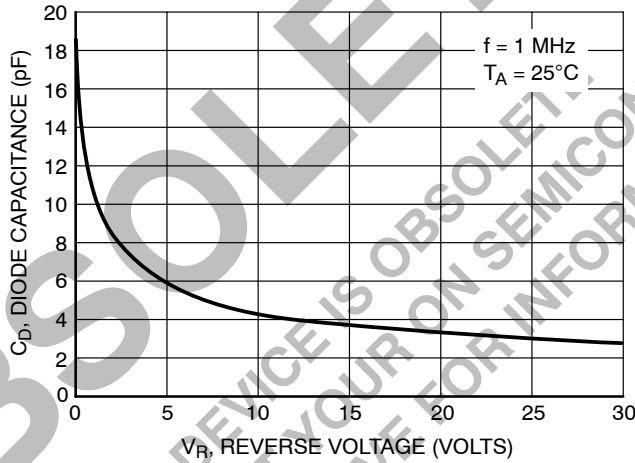
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**Figure 2. Forward Current as a Function of Forward Voltage; Typical Values**



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

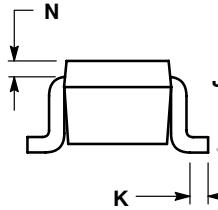
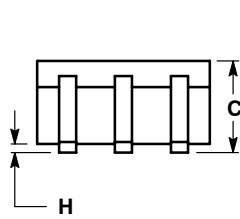
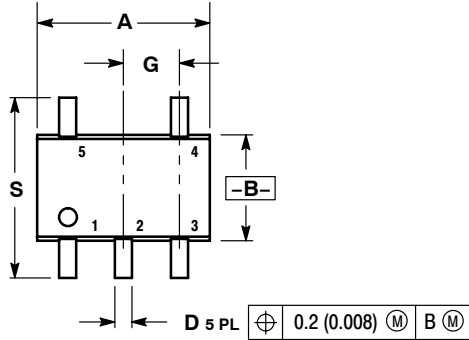


**Figure 4. Diode Capacitance as a Function of Reverse Voltage; Typical Values**

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## PACKAGE DIMENSIONS

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



**NOTES:**

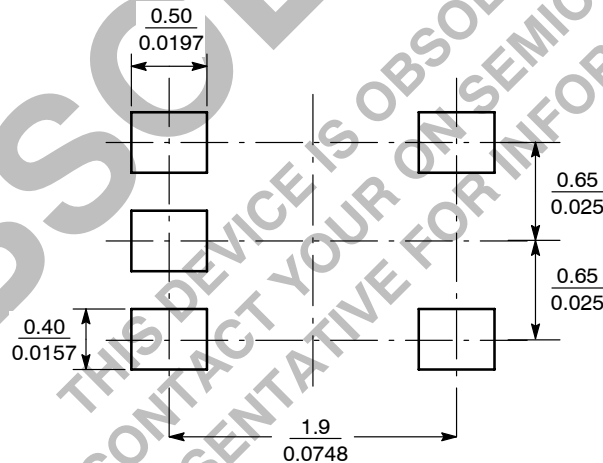
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 419A-01 OBSOLETE. NEW STANDARD 419A-02.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

DIM	INCHES		MILLIMETERS	
	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  
 PIN 2: CATHODE  
 PIN 3: ANODE  
 PIN 4: ANODE  
 PIN 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.

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