

# NUR30Q

## Quad Schottky Barrier Diodes 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

### Typical 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)

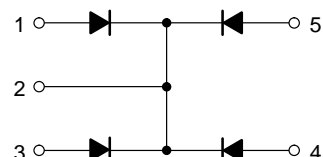
Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	30	Volts
Forward Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_F$	385 3.1	mW mW/ $^\circ\text{C}$
Forward Current (DC)	$I_F$	200	mA
Junction Temperature	$T_J$	125	$^\circ\text{C}$



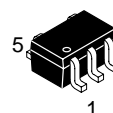
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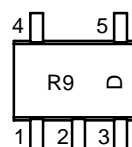
## 30 VOLT QUAD SCHOTTKY DIODES ARRAY



### MARKING DIAGRAM



SC-88A/SOT-353  
CASE 419A  
STYLE 9



R9 = Device Marking  
D = One Digit Date Code

### ORDERING INFORMATION

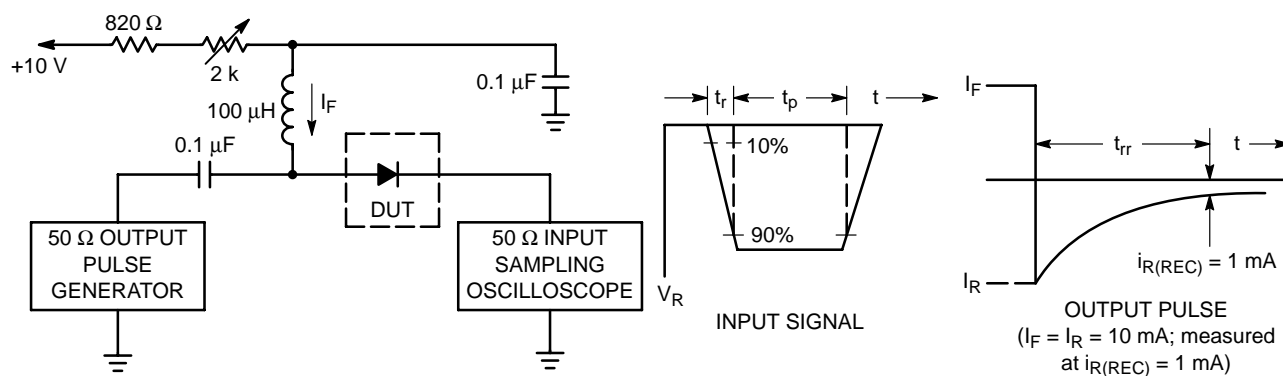
Device	Package	Shipping†
NUR30QW5T1	SC-88A	3000/Tape & Reel

†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** ( $T_A = 25^\circ\text{C}$  unless otherwise noted) (EACH DIODE)

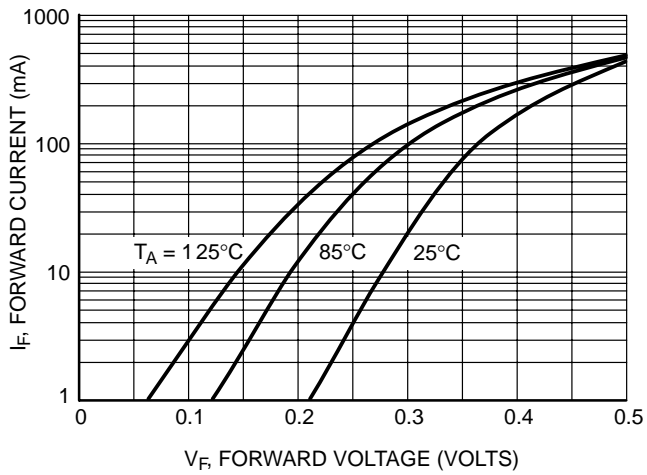
Characteristic	Symbol	Min	Typ	Max	Unit
Total Capacitance ( $V_R = 1.0 \text{ V}$ , $f = 1.0 \text{ MHz}$ )	$C_T$	–	10	20	pF
Reverse Leakage ( $V_R = 10 \text{ V}$ )	$I_R$	–	1.5	30	$\mu\text{Adc}$
Forward Voltage ( $I_F = 0.1 \text{ mAdc}$ )	$V_F$	–	0.15	0.19	Vdc
Forward Voltage ( $I_F = 1.0 \text{ mAdc}$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



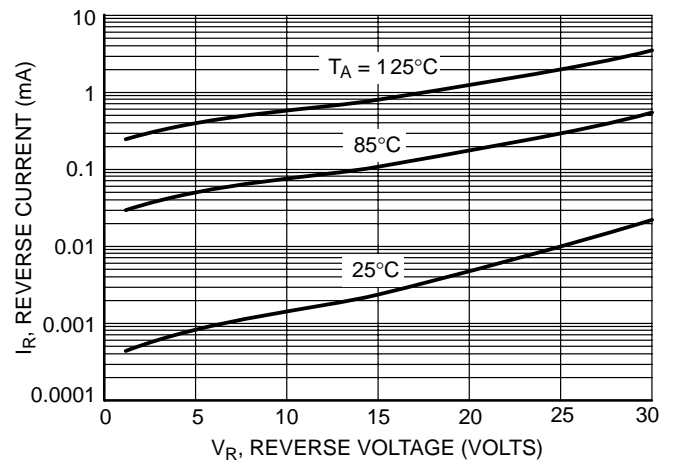
Notes: 1. A 2.0 k $\Omega$  variable resistor adjusted for a Forward Current ( $I_F$ ) of 10 mA.  
2. Input pulse is adjusted so  $I_{R(\text{peak})}$  is equal to 10 mA.  
3.  $t_p \gg t_{rr}$

### Figure 1. Recovery Time Equivalent Test Circuit

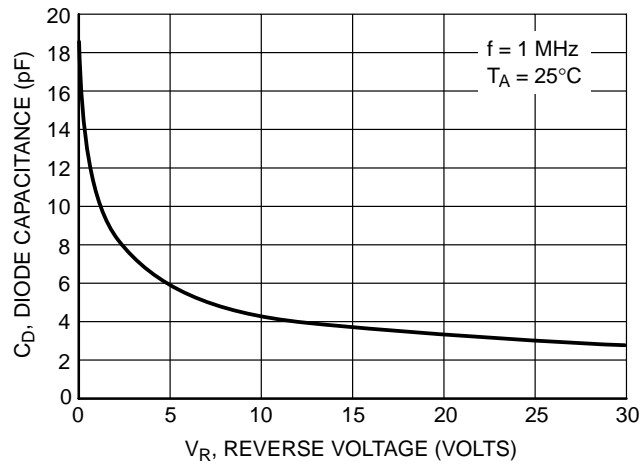
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**Figure 2. Forward Current as a Function of Forward Voltage; Typical Values**



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

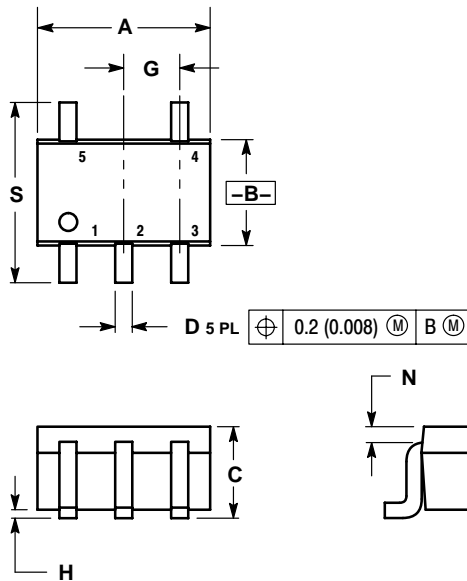


**Figure 4. Diode Capacitance as a Function of Reverse Voltage; Typical Values**

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## PACKAGE DIMENSIONS

### SC-88A (SOT-353) CASE 419A-02 ISSUE G




#### 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  
2: CATHODE  
3: ANODE  
4: ANODE  
5: ANODE

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