NUP4302MR6

Schottky Diode Array for Four Data Line ESD Protection

The NUP4302MR6 is designed to protect high speed data line interface from ESD, EFT and lighting.

Features

- Very Low Forward Voltage Drop
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- ESD Rating of Class 3B (Exceeding 8.0 kV) per Human Body Model and Class B (Exceeding 200 V) per Machine Model
- Flammability Rating: UL 94 V−0

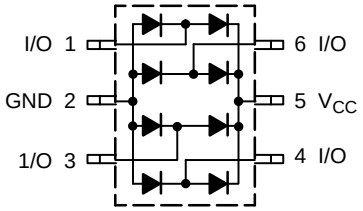
Applications

- Ultra High−Speed Switching
- USB 1.1 and 2.0 Power and Data Line Protection
- Digital Video Interface (DVI)
- Monitors and Flat Panel Displays

ON Semiconductor®

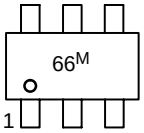
http://onsemi.com

PIN CONFIGURATION AND SCHEMATIC



MARKING DIAGRAM

TSOP−6
CASE 318G
PLASTIC
STYLE 12



66 = Specific Device Code
M = Date Code

ORDERING INFORMATION

Device	Package	Shipping†
NUP4302MR6T1	TSOP−6	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.

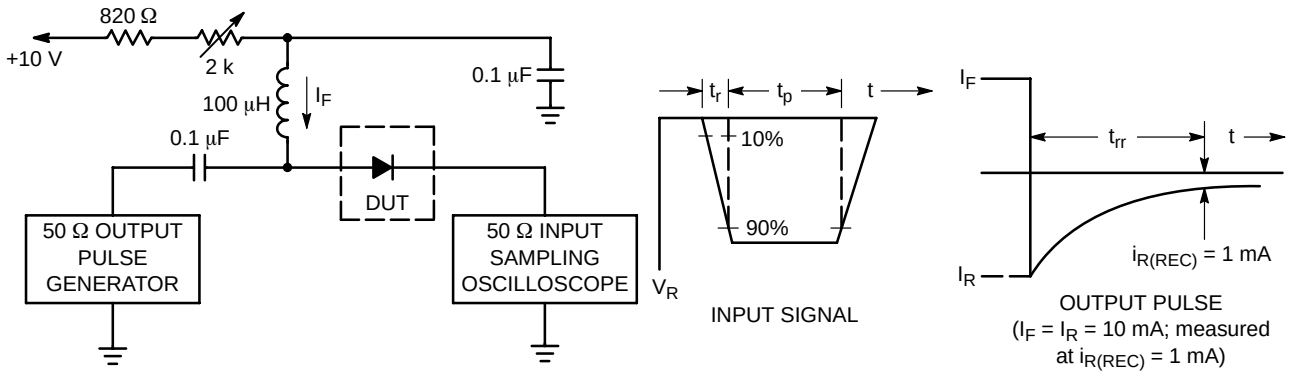
MAXIMUM RATINGS (T_J = 25°C unless otherwise noted)

Rating	Symbol	Value	Unit
Peak Reverse Breakdown Voltage	V_{BR}	30	V
Forward Power Dissipation (T_A = 25°C)	P_F	225	mW
Forward Continuous Current	I_F	200	mA
Junction Operating Temperature	T_J	−55 to +125	°C
Storage Temperature Range	T_{stg}	−55 to +150	°C

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Breakdown Voltage	V_{BR}	I_R = 100 μA	30			V
Reverse Leakage	I_R	V_R = 25 V			30	μA
Forward Voltage	V_F	I_F = 0.1 mAdc			0.28	V
Forward Voltage	V_F	I_F = 1.0 mAdc			0.35	V
Forward Voltage	V_F	I_F = 10 mAdc			0.45	V
Forward Voltage	V_F	I_F = 100 mAdc			1.00	V
Total Capacitance	C_T	V_R = 1.0 V, f = 1.0 MHz			28	pF
Reverse Recovery Time	t_{rr}	I_F = I_R = 10 mA, $I_{R(REC)}$ = 1.0 mA (Figure 1)			5.0	ns



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

Figure 1. Recovery Time Equivalent Test Circuit

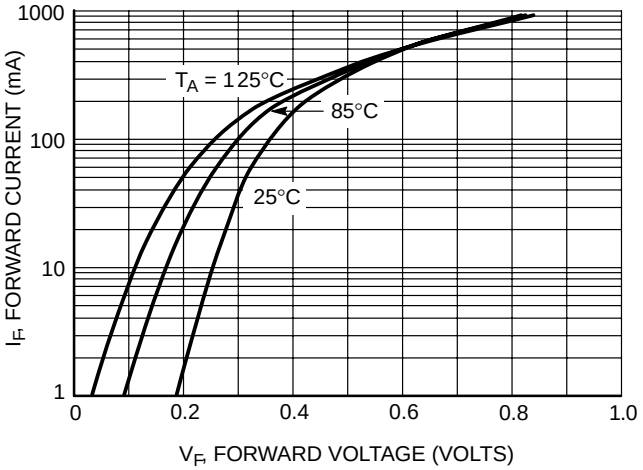


Figure 2. Forward Current as a Function of Forward Voltage; Typical Values

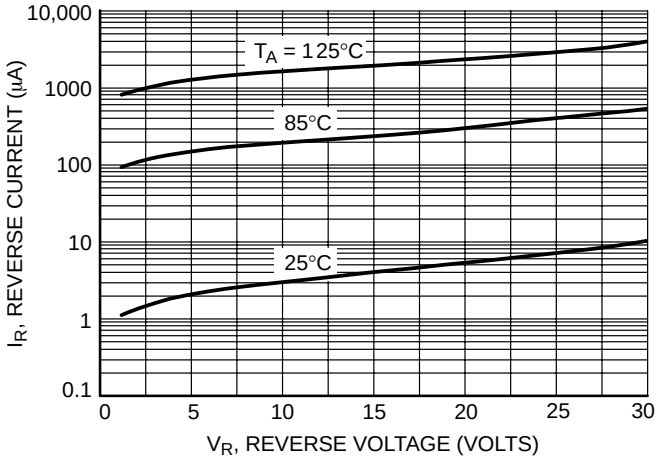


Figure 3. Reverse Current as a Function of Reverse Voltage; Typical Values

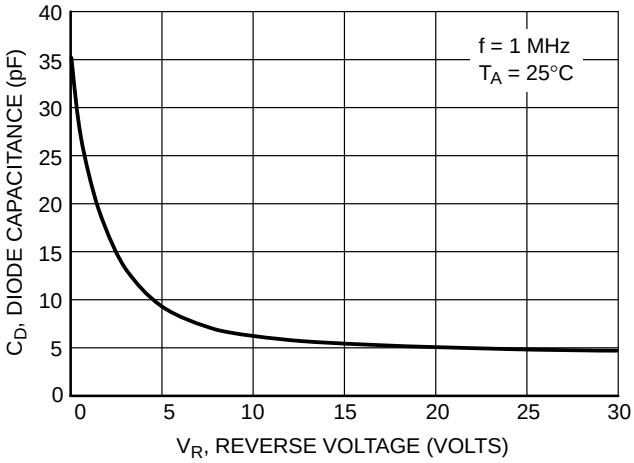
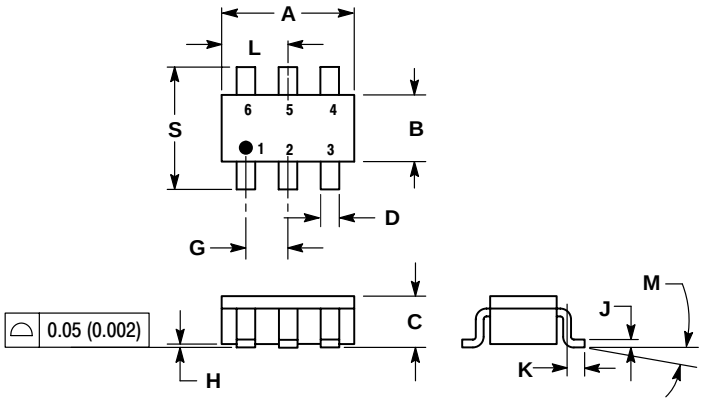


Figure 4. Diode Capacitance as a Function of Reverse Voltage; Typical Values

NUP4302MR6

PACKAGE DIMENSIONS

TSOP−6
CASE 318G−02
ISSUE M

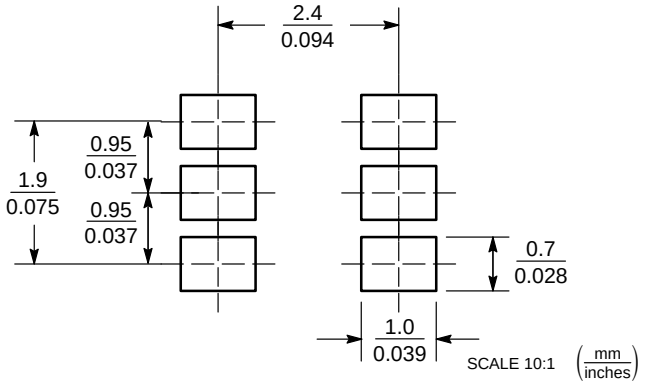


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A	2.90	3.10	0.1142	0.1220
B	1.30	1.70	0.0512	0.0669
C	0.90	1.10	0.0354	0.0433
D	0.25	0.50	0.0098	0.0197
G	0.85	1.05	0.0335	0.0413
H	0.013	0.100	0.0005	0.0040
J	0.10	0.26	0.0040	0.0102
K	0.20	0.60	0.0079	0.0236
L	1.25	1.55	0.0493	0.0610
M	0 °	10 °	0 °	10 °
S	2.50	3.00	0.0985	0.1181

STYLE 12:
PIN 1. I/O
2. GROUND
3. I/O
4. I/O
5. VCC
6. I/O

SOLDERING FOOTPRINT



PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
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