

RoHS Compliant Product

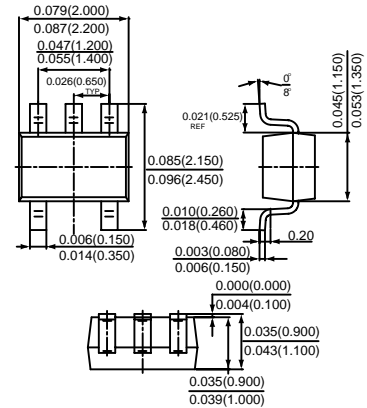
## DESCRIPTION

- . Designed to protect voltage sensitive components from ESD.
- . Excellent clamping capability, low leakage and fast response.
- . Cellular phones, MP3 players, digital cameras ... etc.
- . Suitable for electronics where board space is a major design consideration.

## FEATURES

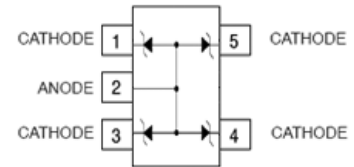
- . Response time is typically < 1 ns
- . Low leakage
- . Stand-off voltage:5.0V
- . ESD rating of class 3 (> 16 kV) per human body model
- . IEC61000-4-2 level 4 ESD protection

### SOT-353



## MARKING CODE

12



## MAXIMUM RATINGS

Rating 25°C ambient temperature unless otherwise specified.

TYPE NUMBER	SYMBOL	LIMITS	UNITS
IEC61000-4-2 (ESD)	Air Contact	30	kV
ESD Voltage	per human body model	16	kV
	per machine model	400	V
Lead Solder Temperature - Max. (10 sec duration)	$T_L$	260	°C
Thermal Resistance Junction-to-ambient	$R_{\theta JA}$	325	°C/W
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 ~ +150	°C
Total Power Dissipation on FR-5 board (Note 2)	$P_D$	385	mW

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.

1. FR-5 = 1.0 x 0.75 x 0.62 in.

2. Only 1 diode under power. For all 4 diodes under power,  $P_D$  will be 25%. Mounted on FR-4 board with min pad.

## ELECTRICAL CHARACTERISTICS (T = 25°C unless otherwise noted, $V_F = 0.9V$ Max. @ $I_F = 10mA$ for all types)

TYPE NUMBER	SYMBOL	Min.	Typ.	Max.	UNIT	TEST CONDITIONS
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	5.0	V	$V_{RWM} = 5V$
Reverse Leakage Current	$I_R$	-	-	5.0	µA	
Peak Pulse Current	$I_{PP}$	-	-	8	A	$I_F = 200mA$
Forward Voltage @ $I_F$	$V_F$	-	-	1.25	V	
Clamping Voltage	$V_C$	-	-	12.5	V	$I_{PP} = 5A$
Reverse Breakdown Voltage	$V_{BR}$	6.0	-	7.2	V	$I_T = 1mA, T_{AMBIENT} = 25°C$
Test Current	$I_T$	-	1.0	-	mA	
Junction Capacitance	C	-	90	-	pF	
Peak Power Dissipation	$P_{PK}$	-	-	100	W	(@8x20ms @ $T_A < 25°C$ ; Non-repetitive current per Figure 1.)

## ELECTRICAL CHARACTERISTIC CURVES

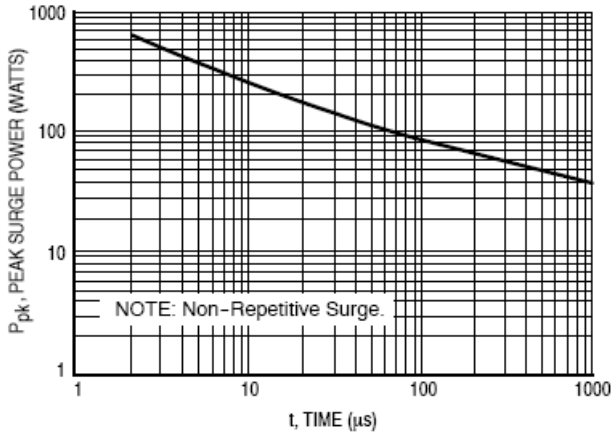


Figure 1. Pulse Width

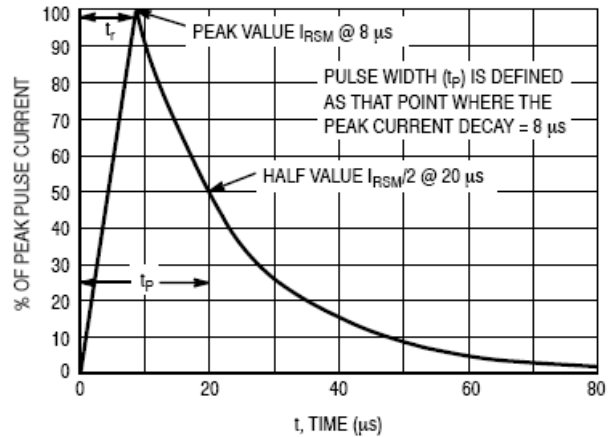


Figure 2. 8 × 20 µs Pulse Waveform

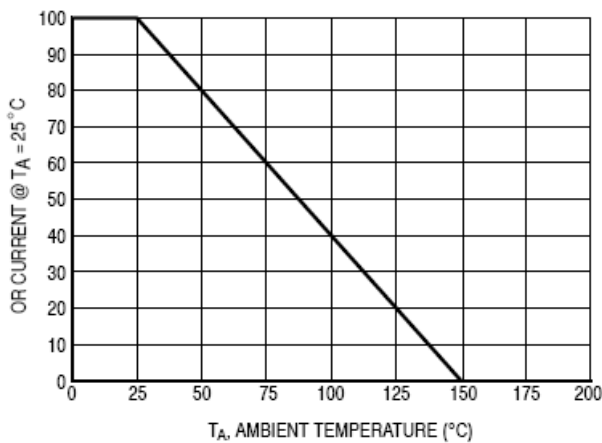


Figure 3. Pulse Derating Curve

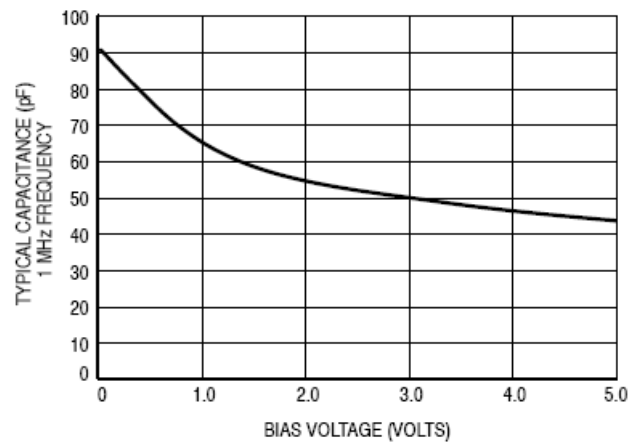


Figure 4. Capacitance

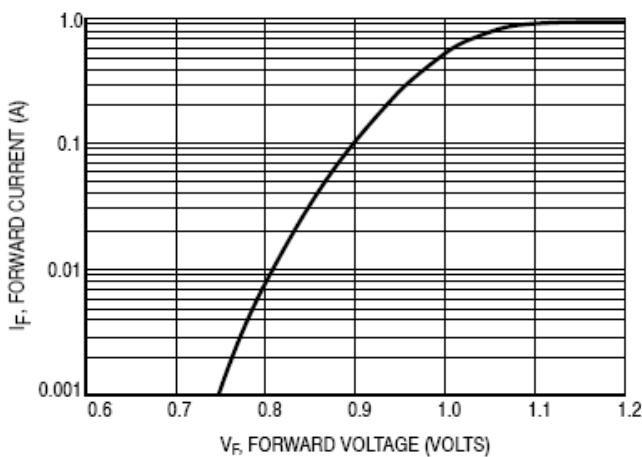


Figure 5. Forward Voltage

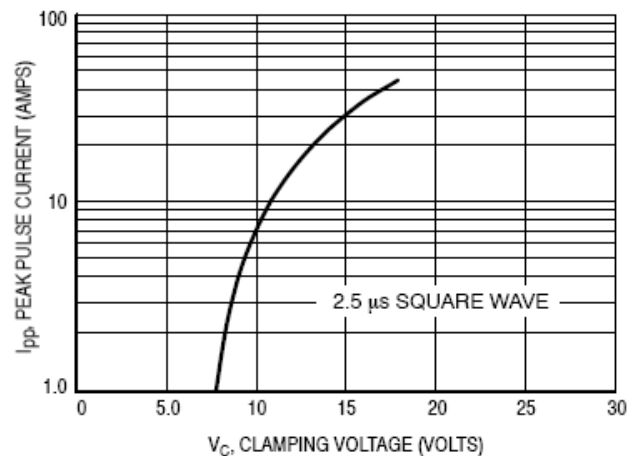
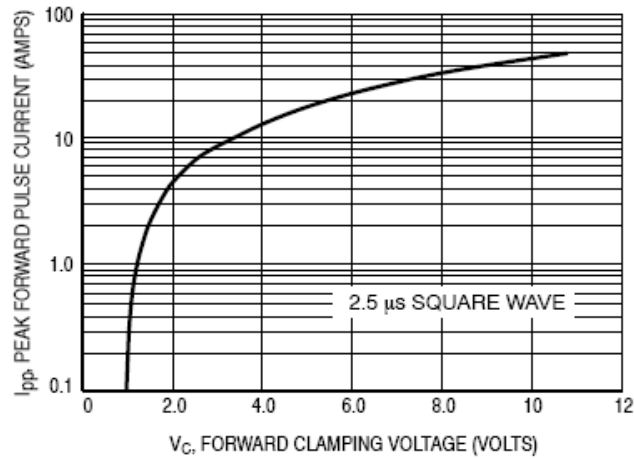


Figure 6. Clamping Voltage versus Peak Pulse Current (Reverse Direction)

**ELECTRICAL CHARACTERISTIC CURVES**

**Figure 7. Clamping Voltage versus Peak Pulse Current (Forward Direction)**