RCLAMP0502A

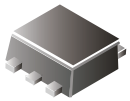
TVS Protection Array

RoHS Device

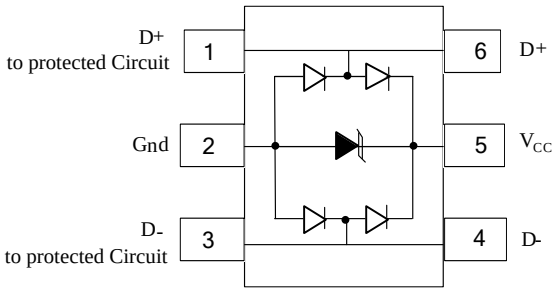
Halogen Free

Features

- 100 Watts Peak Power per Line (tp = 8/20μs)
- Protects two I/O lines
- Low operating v oltage: 5V
- Ultra Low capacitance(< 1.0pF) for high -speed interfaces
- Solid -state technology



SOT-666



Mechanical Characteristics

- JEDEC SOT-666 package
- Molding compound flammability rating: UL 94V -0
- Marking : Making Code
- Packaging : Tape and Reel per EIA 481

Applications

- FireWire & USB
- Sensitive Analog Inputs
- Portable Electronics
- LAN/WAN equipment
- Video Line Protection
- Microcontroller Input Protection

IEC COMPATIBILITY (EN61000-4)

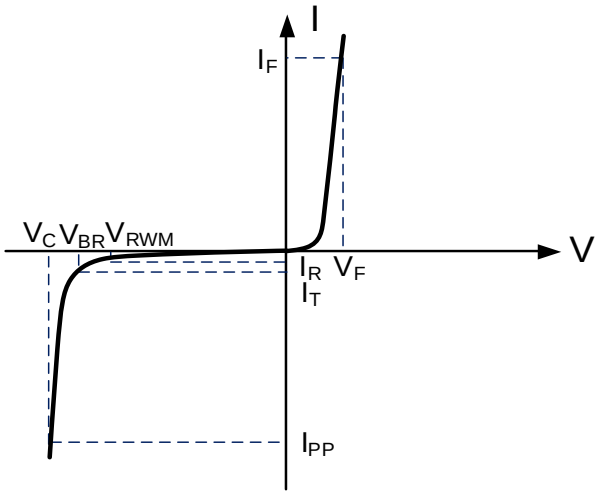
- IEC 61000 -4-2 (ESD) ± 15kV (air), ± 8kV (contact)
- IEC 61000 -4-4 (EFT) 40A (5/50ns)
- IEC 61000 -4-5 (Lightning) 4A(8/20US)

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power（t_p=8/20μs）	P_{PP}	100	Watts
Peak Pulse Current（t_p=8/20μs）	I_{PP}	4	A
Lead Soldering Temperature	T_L	260 (10sec)	℃
Operating Temperature	T_J	-55 to + 125	℃
Storage Temperature	T_{STG}	-55 to +150	℃

Electrical Parameters (T=25℃)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T



Electrical Characteristics

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				5.0	V
Breakdown Voltag	V_{BR}	I_T=1mA	6.0			V
Reverse Leakage Current	I_R	V_{RWM}=5V, T=25℃			1.0	μA
Clamping Voltage	V_C	I_{PP}=1A, t_p=8/20μs		10		V
Clamping Voltage	V_C	I_{PP}=4A, t_p=8/20μs		25		V
Junction Capacitance	C_j	Between I/O pins and Ground V_R=0V, f=1MHz		0.8	1.0	pF
		Between I/O pins V_R=0V, f=1MHz		0.4	0.6	pF

Typical Characteristics

Figure 1: Peak Pulse Power Vs Pulse Time

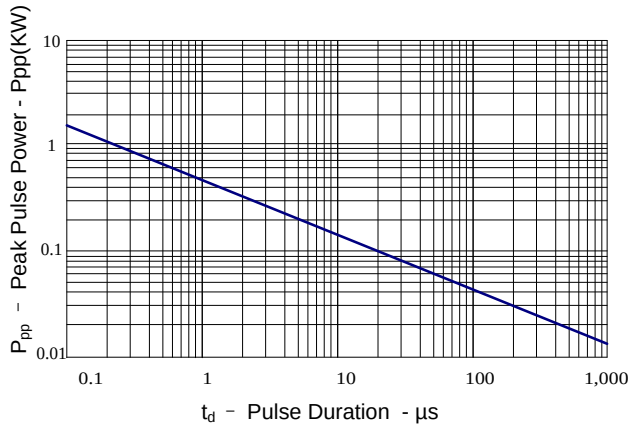


Figure 2: Power Derating Curve

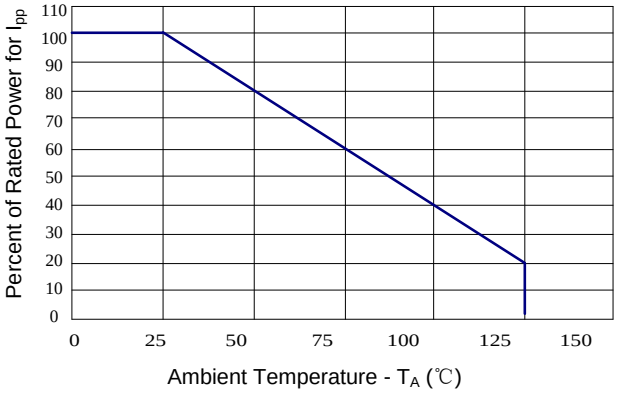


Figure 3: Pulse Waveform

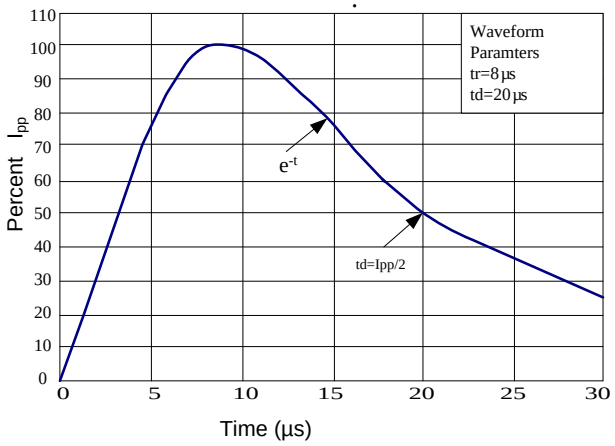


Figure 4: Clamping Voltage vs. Peak Pulse Current

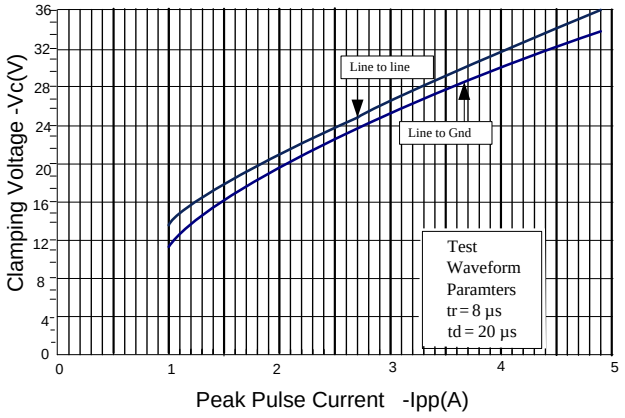


Figure 5: Forward Voltage vs. Forward Current

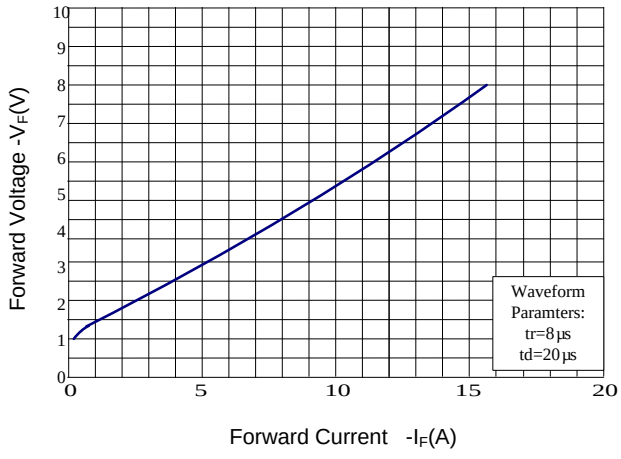
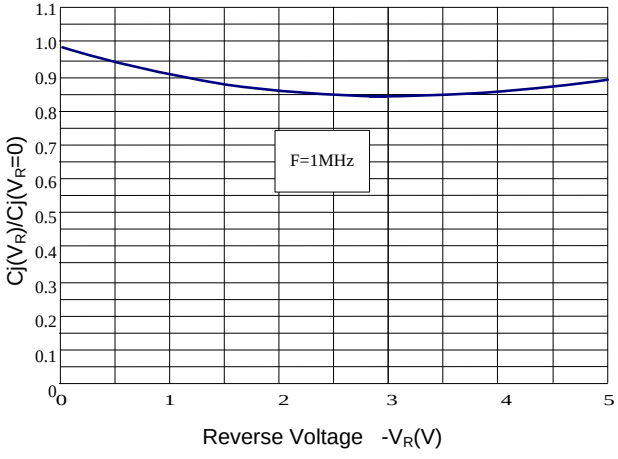
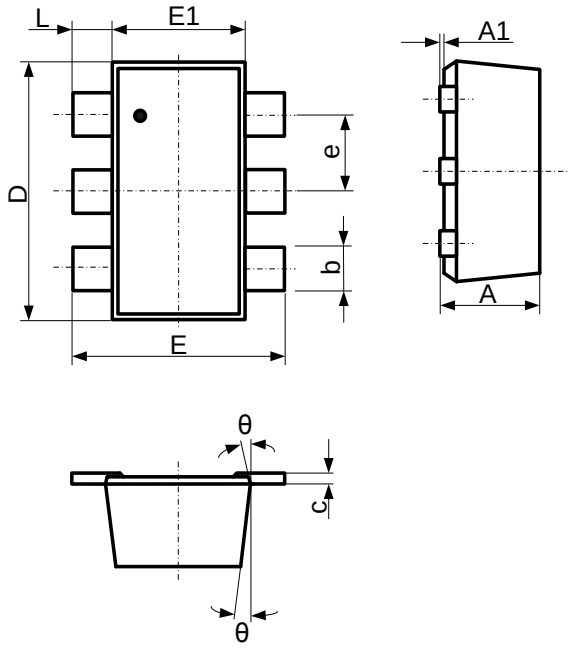


Figure 6: Capacitance vs. Reverse Voltage



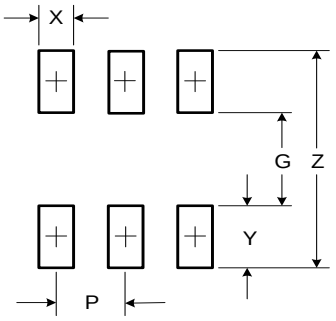
Outline Drawing_ SOT-666

PACKAGE OUTLINE



DIMENSIONS

SYMBOL	INCHES		MILLIMETER	
	MIN	MAX	MIN	MAX
A	0.021	0.024	0.525	0.600
A1	0.000	0.002	0.000	0.050
e	0.018	0.022	0.450	0.550
c	0.004	0.006	0.090	0.160
D	0.059	0.067	1.500	1.700
b	0.007	0.011	0.170	0.270
E1	0.043	0.051	1.100	1.300
E	0.059	0.067	1.500	1.700
L	0.004	0.012	0.100	0.300
θ	7°REF		7°REF	



DIMENSIONS		
DIM	INCHES	MILLIMETERS
Z	0.0752	1.91
G	0.0350	0.89
P	0.020TYP	0.51 TYP
X	0.0118	0.3
Y	0.0201	0.51

Notes

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Dimensions are exclusive of mold flash and metal burrs.