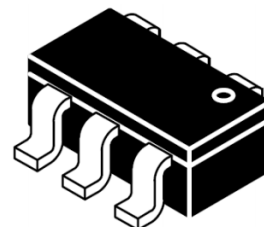
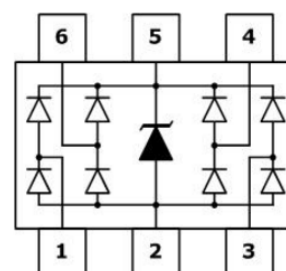


Features

- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 20\text{kV}$
 - Contact discharge: $\pm 20\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 5A (8/20 μs)
- RoHS Compliant
- AEC-Q101 qualified.



SOT-26



Applications

- USB 2.0 power and data line
- Set-top box and digital TV
- Digital video interface (DVI)
- Notebook Computers
- SIM Ports
- 10/100/1000 Ethernet

Mechanical Characteristics

- Package: SOT-26
- Lead Finish: Lead Free
- UL Flammability Classification Rating 94V-0
- Quantity Per Reel: 3,000 pcs
- Reel Size: 7 inch

Absolute Maximum Ratings ($T_{\text{amb}} = 25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P _{pp}	350	W
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 20	Kv
ESD per IEC 61000-4-2 (Contact)		± 20	
Operating Temperature Range	T _J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T _{STJ}	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	$I_T = 1mA$	6			V
Reverse Leakage Current	I_R	$V_{RWM} = 5V$			1	μA
Clamping Voltage	V_C	$I_{PP} = 1A$ (8 x 20 μs pulse)			15	V
Clamping Voltage	V_C	$I_{PP} = 5A$ (8 x 20 μs pulse)			28	V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$		0.5		pF

Characteristic Curves

Fig1. 8/20 μs Pulse Waveform

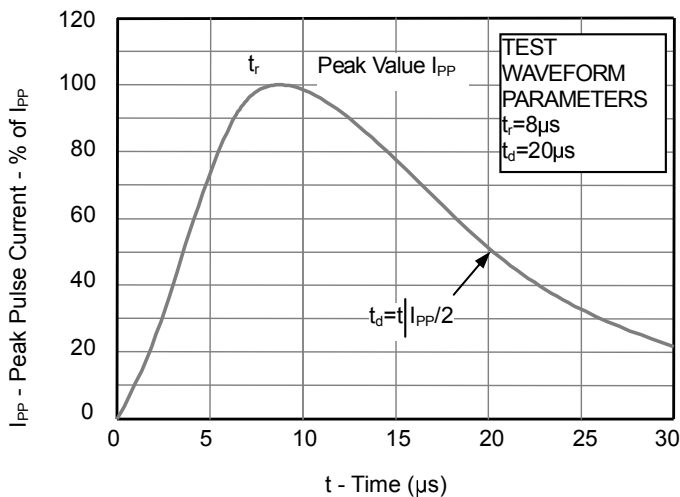


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

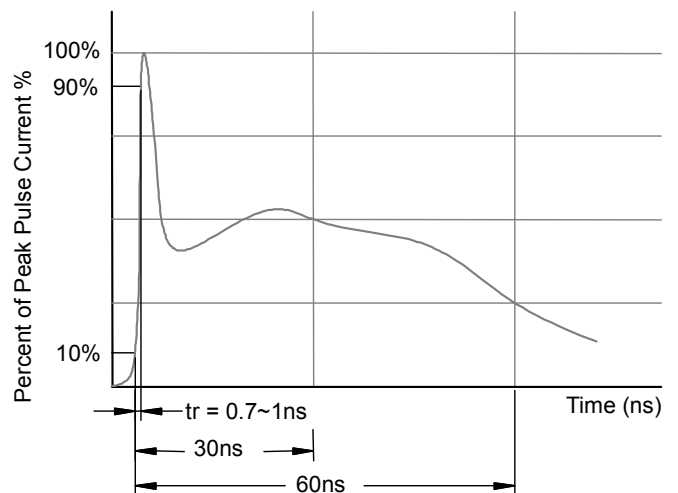
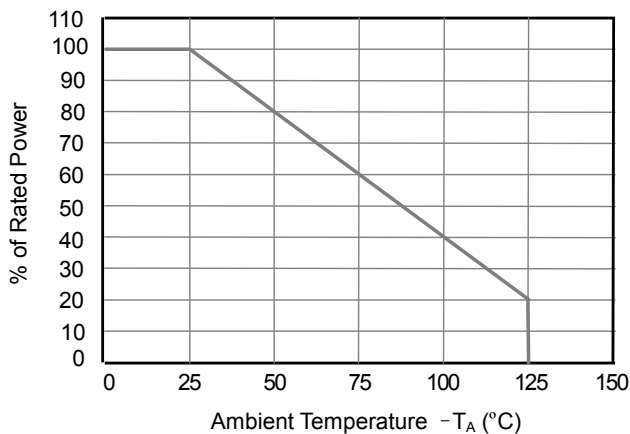


Fig3. Power Derating Curve



Applications Information

Figure 1. Data Line and Power Supply Protection Using V_{CC} as reference

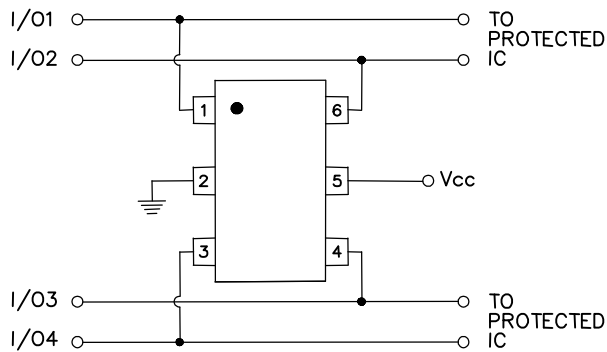


Figure 2. Data Line Protection with Bias and Power Supply Isolation Resistor

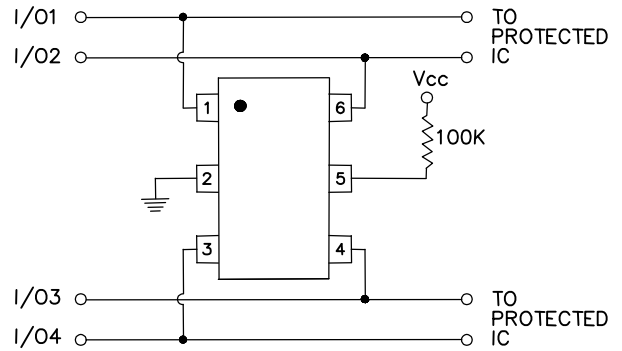


Figure 3. Data Line Protection Using Internal TVS Diode as Reference

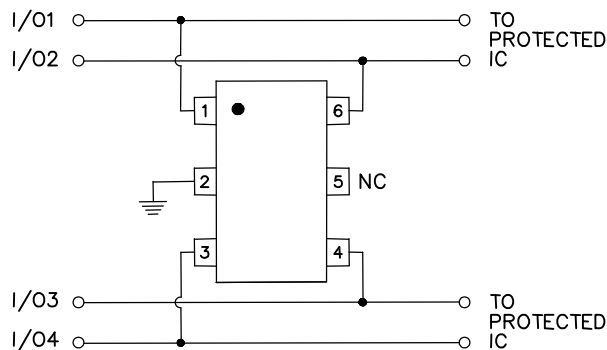


Figure 4. Video Interface Protection

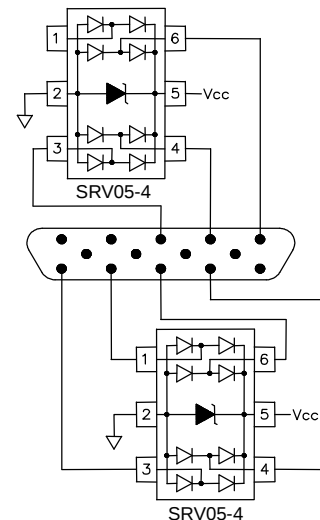


Figure 5 - Dual USB Port Protection

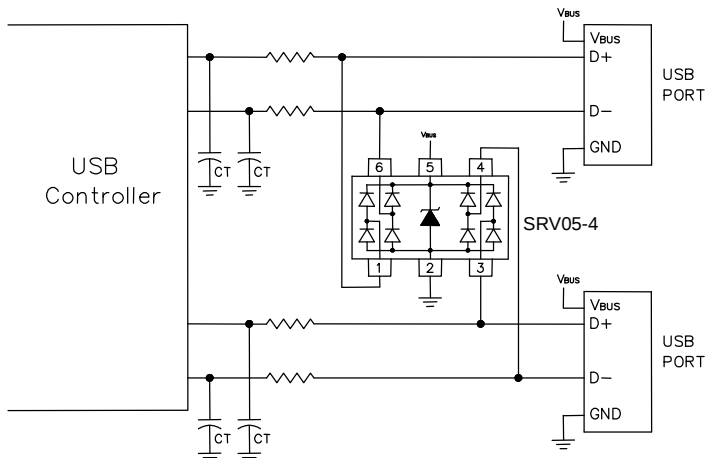
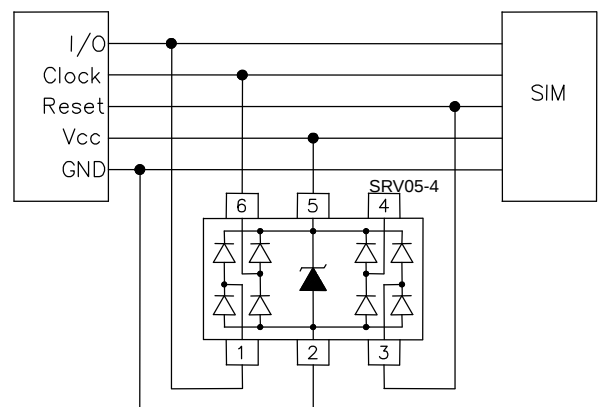


Figure 6 - SIM Port

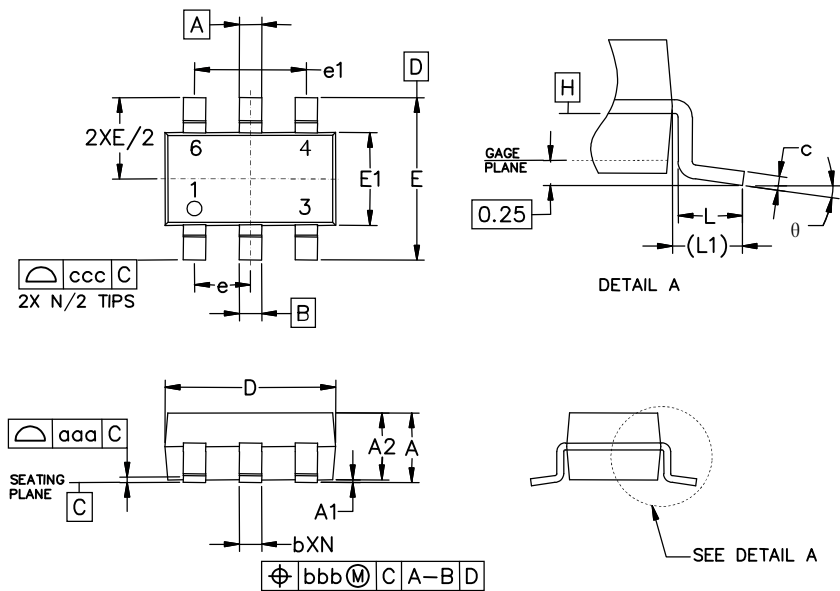


The diagram shows an Ethernet transceiver circuit. On the left, a block labeled "ETHERNET TRANCEIVER" is connected to a 100Ω resistor. The other end of the resistor is connected to a transformer. The transformer's secondary is connected to a bridge rectifier circuit. The bridge rectifier has four diodes and a center tap connected to ground. The output of the bridge rectifier is connected to a 50Ω resistor. The other end of the 50Ω resistor is connected to a transformer. The transformer's secondary is connected to a 75Ω resistor. The other end of the 75Ω resistor is connected to a twisted pair network. The twisted pair network has 8 pins, each with a 50Ω resistor. The output of the twisted pair network is connected to a twisted pair cable. The twisted pair cable is labeled "To Twisted - Pair Network".

Ver.1.0

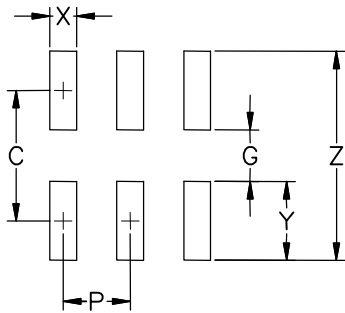
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SOT-26 Package Outline & Dimensions



Symbol	Inches			Millimeters		
	Min.	Nom.	Max.	Min.	Nom.	Max.
A	0.035	-	0.057	0.90	-	1.45
A1	0.000	-	0.006	0.00	-	0.15
A2	0.035	0.045	0.051	0.90	1.15	1.30
b	0.010	-	0.020	0.25	-	0.50
c	0.003	-	0.009	0.08	-	0.22
D	0.110	0.114	0.122	2.80	2.90	3.10
E1	0.060	0.063	0.069	1.50	1.60	1.75
E	0.110 BSC			2.80 BSC		
e	0.037 BSC			0.95 BSC		
e1	0.075 BSC			1.90 BSC		
L	0.012	0.018	0.024	0.30	0.45	0.60
L1	(0.024)			(0.60)		
θ	0°	-	10°	0°	-	10°
aaa	0.004			0.10		
bbb	0.008			0.20		
ccc	0.008			0.20		

Soldering Footprint



Symbol	Inches	Millimeters
C	(0.098)	(2.50)
G	0.055	1.40
P	0.037	0.95
X	0.024	0.60
Y	0.043	1.10
Z	0.141	3.60

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