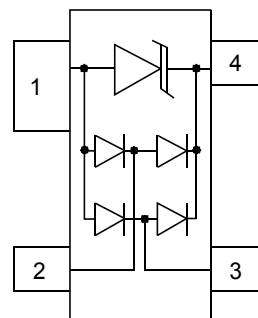


Features

- ESD protection to **IEC 61000-4-2, Level 4**
- Array of surge rated diodes with internal TVS Diode
- Protects two I/O lines
- Low capacitance (<10pF) for high-speed interfaces
- Low clamping voltage
- Low operating voltage: 5.0V
- Solid-state silicon-avalanche technology



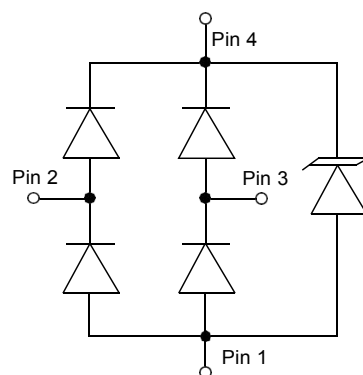
SOT-143 (Top View)

Mechanical Characteristics

- JEDEC SOT-143 package
- UL 497B listed
- Molding compound flammability rating: UL 94V-0
- Packaging : Tape and Reel per EIA 481

Applications

- USB Power & Data Line Protection
- Ethernet 10BaseT
- I²C Bus Protection
- Video Line Protection
- T1/E1 secondary IC Side Protection
- Portable Electronics
- Microcontroller Input Protection
- WAN/LAN Equipment
- ISDN S/T Interface



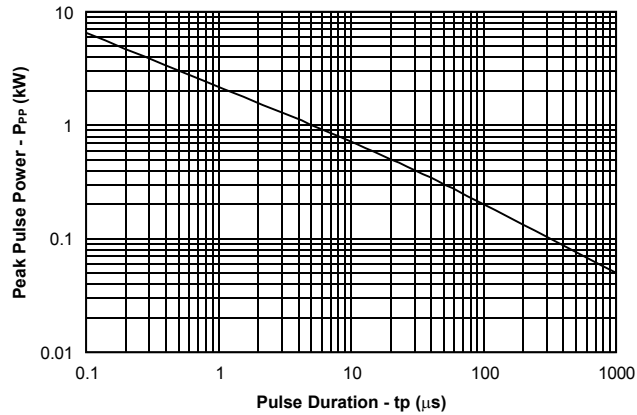
Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (tp = 8/20μs)	P _{pk}	500	Watts
Peak Pulse Current (tp = 8/20μs)	I _{pp}	25	A
Peak Forward Voltage (I _F = 1A, tp=8/20μs)	V _{FP}	1.5	V
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature	T _J	-55 to +125	°C
Storage Temperature	T _{STG}	-55 to +150	°C

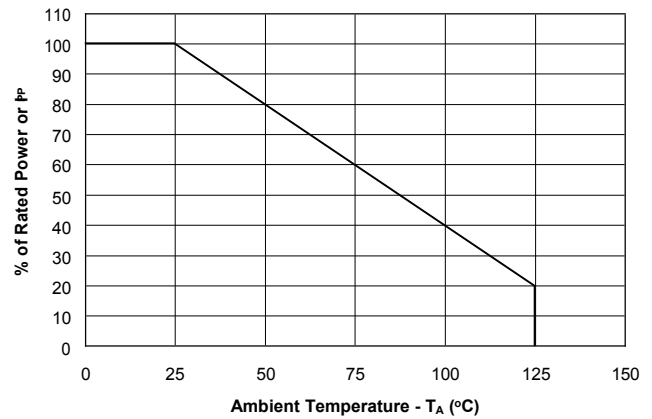
Electrical Characteristics

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V _{RWM}				5	V
Reverse Breakdown Voltage	V _{BR}	I _t = 1mA	6			V
Reverse Leakage Current	I _R	V _{RWM} = 5V, T=25 °C			5	μA
Clamping Voltage	V _C	I _{pp} = 1A, tp = 8/20μs			9.8	V
Clamping Voltage	V _C	I _{pp} = 10A, tp = 8/20μs			12	V
Clamping Voltage	V _C	I _{pp} = 25A, tp = 8/20μs			20	V
Junction Capacitance	C _j	Between I/O pins and Gnd V _R = 0V, f = 1MHz		6	10	pF
		Between I/O pins V _R = 0V, f = 1MHz		3		pF

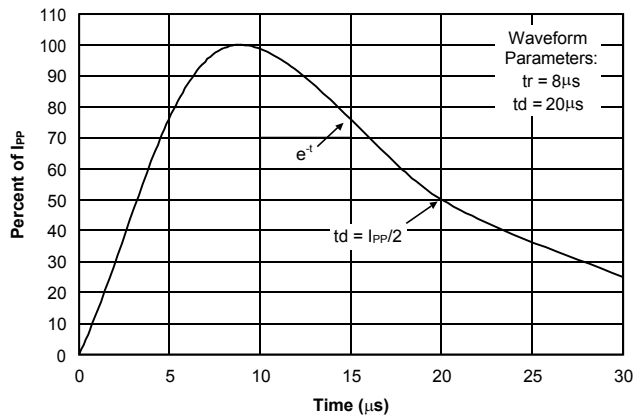
Non-Repetitive Peak Pulse Power vs. Pulse Time



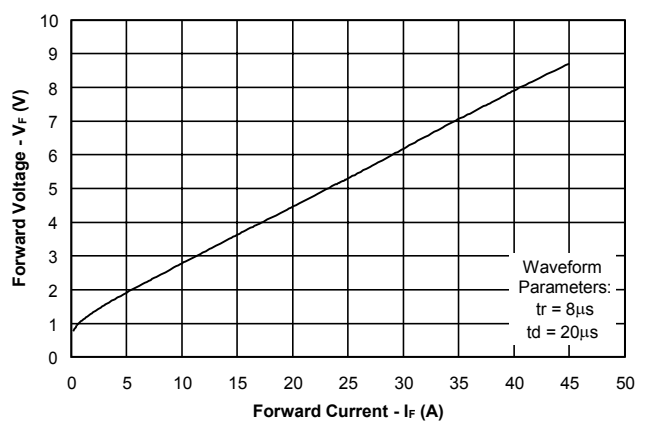
Power Derating Curve



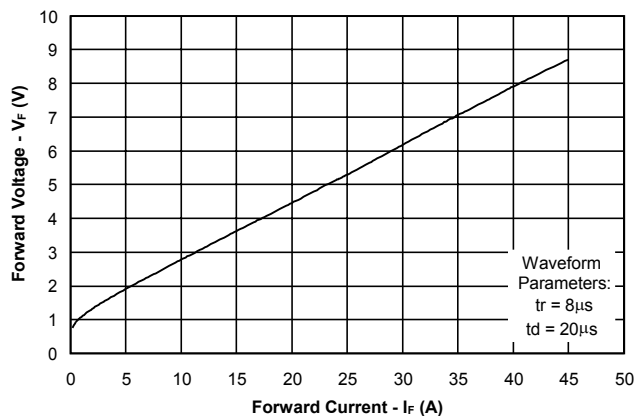
Pulse Waveform



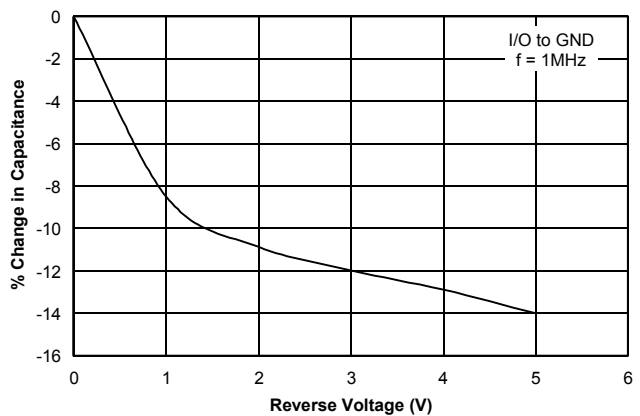
Clamping Voltage vs. Peak Pulse Current



Forward Voltage vs. Forward Current

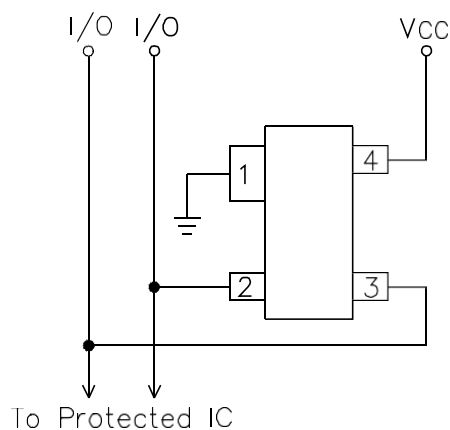


Capacitance vs. Reverse Voltage

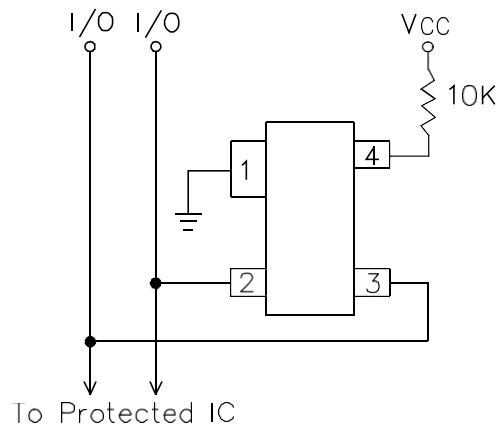


Applications Information

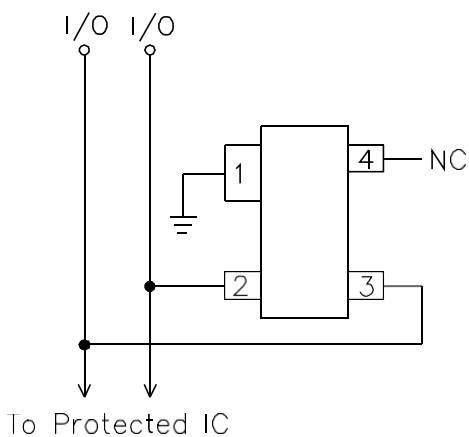
Data Line and Power Supply Protection Using Vcc as reference



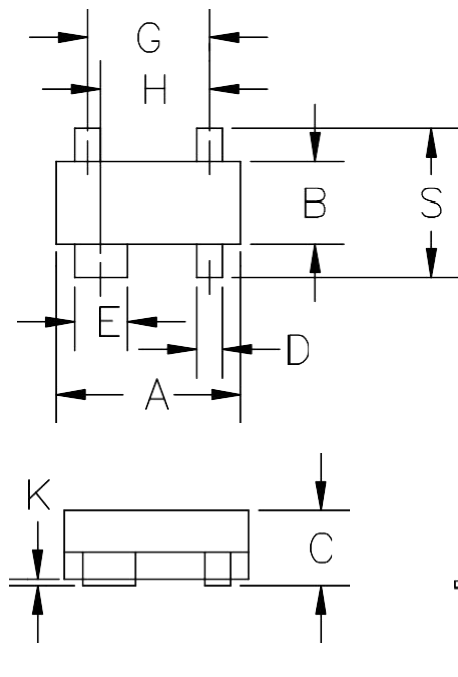
Data Line Protection with Bias and Power Supply Isolation Resistor



Data Line Protection Using Internal TVS Diode as Reference



SOT-143



DIMENSIONS					
DIM ^N	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	—
B	.047	.055	1.20	1.40	—
C	.031	.047	.80	1.20	—
D	.014	.018	.37	.510	—
E	.030	.035	.76	.940	—
G	.076	BSC	1.92	BSC	—
H	.068	BSC	1.72	BSC	—
J	.003	.005	.085	.180	—
K	.002	.005	.013	0.10	—
L	.010	.022	—	.55	REF
S	.082	.104	2.10	2.64	—

Notes:

- (1) Controlling dimension: Inch (unless otherwise specified).
- (2) Dimension A and B do not include mold protrusions. Mold protrusions are .006" max.

CCS Semiconductor and  are trademarks of Semiconductor Components Industries, CCS Semiconductor reserves the right to make changes without further notice to any products herein. CCS Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does CCS Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. CCS Semiconductor does not convey any license under its patent rights nor the rights of others.