



Micro Commercial Components



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# LSR05

## 5 Volts ESD Protector

### Features

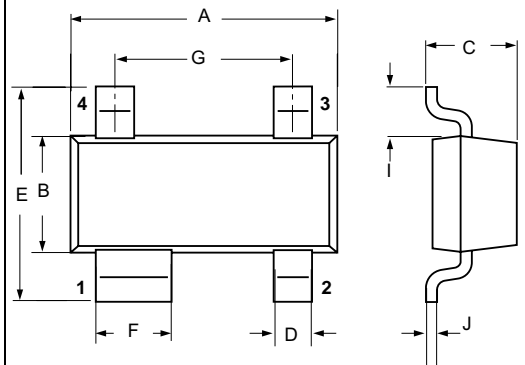
- Halogen free available upon request by adding suffix "-HF"
- Ultra low capacitance:0.3pF typical
- Low operating voltage:5V
- Low Clamping Voltage
- Protects two data lines and one power line
- Low Capacitance
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1

### Maximum Ratings

- Operating Junction Temperature: -55°C to +125°C
- Storage Temperature: -55°C to +150°C

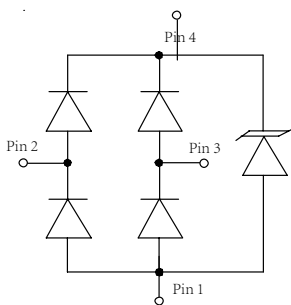
Parameter	Symbol	Limits	unit
IEC61000-4-2(ESD) Air Contact		±30	KV
IEC61000-4-4 (EFT): @ 5/50us		40	A
IEC61000-4-5 (Lightning): @ 8/20us		8	A
Peak Pulse Power: @ 8/20us	Ppk	130	W

### SOT-143

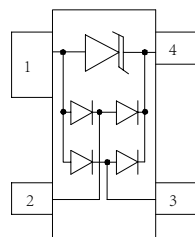


### Dimensions and Pin Configuration

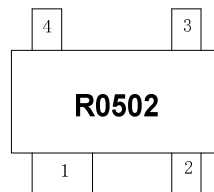
### Marking Information



Circuit Diagram



Pin Schematic



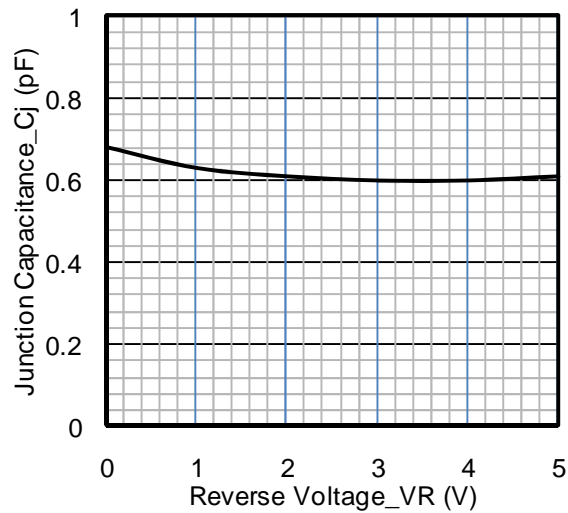
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.047	.055	1.20	1.40	
C	.031	.048	0.80	1.22	
D	.011	.020	0.30	0.51	
E	.082	.104	2.10	2.64	
F	.029	.037	0.76	0.94	
G	.070	.080	1.78	2.03	
I	.015	.024	0.40	0.60	
J	.003	.008	0.08	0.20	

**Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>			5	V	Any I/O pin to ground
Breakdown Voltage	V <sub>BR</sub>	6			V	I <sub>T</sub> = 1mA, any I/O pin to ground
Reverse Leakage Current	I <sub>R</sub>		0.005	0.5	μA	V <sub>RWM</sub> = 5V, any I/O pin to ground
Clamping Voltage	V <sub>C</sub>			9	V	I <sub>PP</sub> = 1A (8 x 20μs pulse), any I/O pin to ground
Clamping Voltage	V <sub>C</sub>			12	V	I <sub>PP</sub> = 5A (8 x 20μs pulse), any I/O pin to ground
Junction Capacitance	C <sub>J</sub>		0.3	0.4	pF	V <sub>R</sub> = 0V, f = 1MHz, between I/O pins
Junction Capacitance	C <sub>J</sub>			0.8	pF	V <sub>R</sub> = 0V, f = 1MHz, any I/O pin to ground

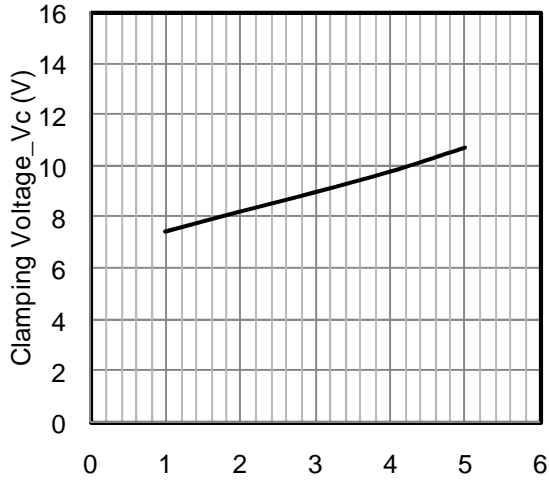
Note 1: I/O pins are pin 2 & 3

**Typical Performance Characteristics (T<sub>A</sub>=25°C unless otherwise Specified)**

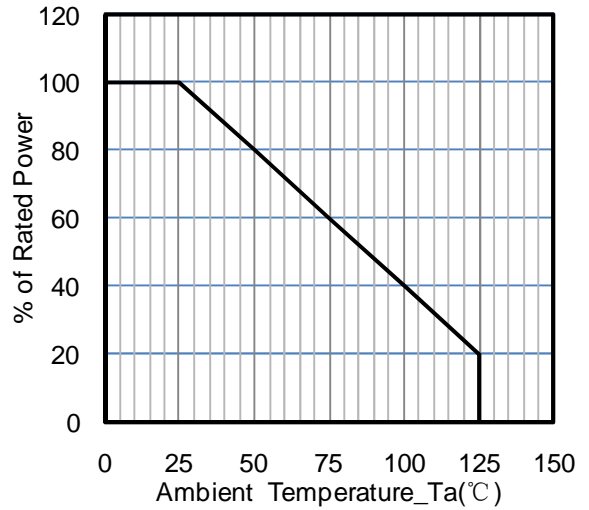


**Junction Capacitance vs. Reverse Voltage**

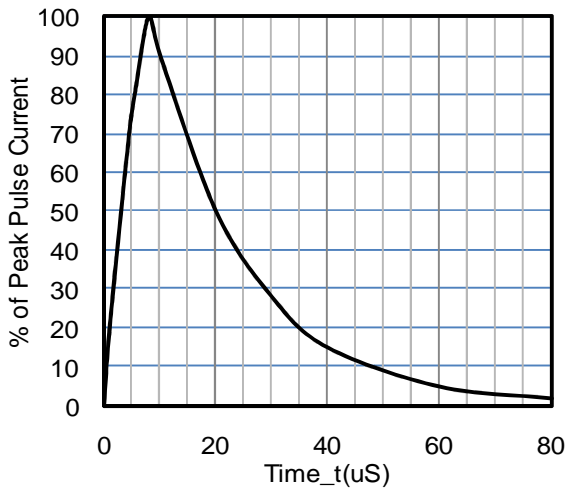
**Typical Performance Characteristics ( $T_A=25^{\circ}\text{C}$  unless otherwise Specified)**



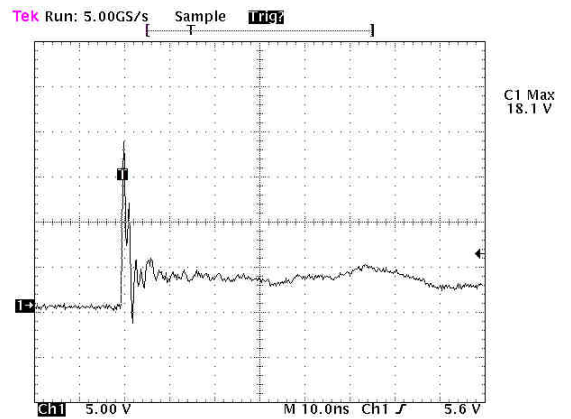
**Clamping Voltage vs. Peak Pulse Current**



**Power Derating Curve**



**8 X 20uS Pulse Waveform**



**ESD Clamping Voltage**

**8 kV Contact per IEC61000-4-2**



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Ordering Information :

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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