

Features

- ◇ 90W (8/20 μ s) Peak Pulse Power
- ◇ Low Capacitance ESD Protection
- ◇ SOT-143 Package
- ◇ RoHS Compliant
- ◇ Matte Tin Lead finish (Pb-Free)
- ◇ Protect Two High Speed Data Lines and Vcc
- ◇ Meet IEC61000-4-2 Level 4:
 - Contact Discharge > 15kV
 - Air Discharge > 20kV

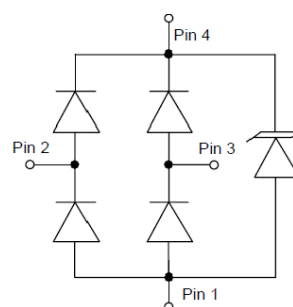
Applications

- ◇ I²C Bus Protection
- ◇ ISDN S/T Interface
- ◇ Ethernet 10/100 BaseT
- ◇ Portable Electronics
- ◇ Video Line Protection
- ◇ WAN/LAN Equipment
- ◇ Microcontroller Input Protection
- ◇ USB Power and Data Line Protection
- ◇ T1/E1 Secondary IC Side Protection

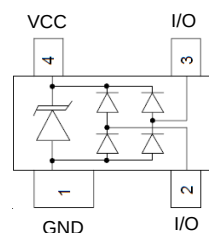
Ordering information

Device	Package	Marking
ESD05V14T	SOT-143	R05

Circuit Diagram



PIN Diagram



Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

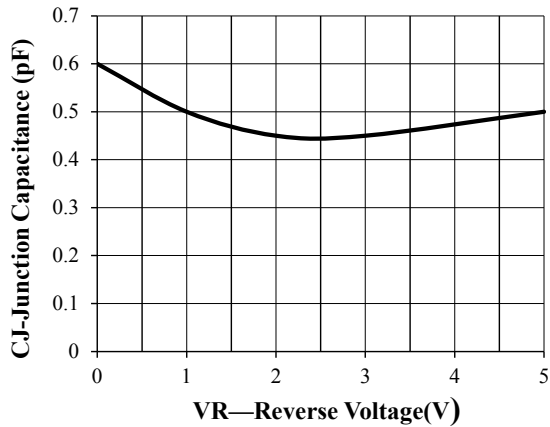
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μ s, I/O-GND)	Ppk	90	W
Peak Pulse Power (8/20 μ s, Vcc-GND)	Ppk	160	W
Peak Pulse Current (8/20 μ s, I/O-GND)	IPP	6	A
Peak Pulse Current (8/20 μ s, Vcc-GND)	IPP	10	A
ESD per IEC 61000-4-2 (Air)	V _{ESD,VDD}	±20	kV
ESD per IEC 61000-4-2 (Contact)	V _{ESD,I/O}	±15	kV
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

ESD05V14T-LC

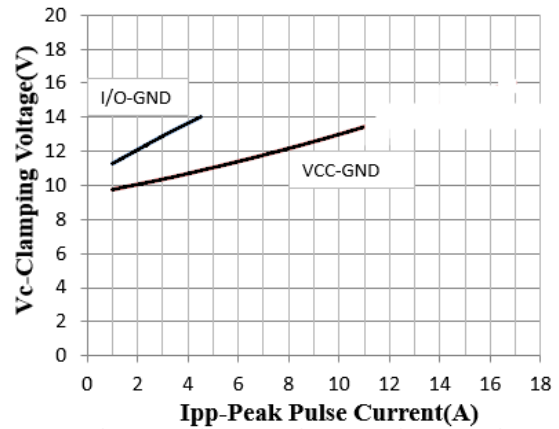
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}	Pin 4 to GND,I/O-GND			5.0	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$ (Pin 4 to GND,I/O-GND)	6.0	7.5	8.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 5.0\text{V}$			0.5	μA
Forward Breakdown Voltage	V_F	$I_F = 10\text{mA}$,GND to Pin 4/IO			1.2	V
Clamping Voltage	V_C	$I_{PP} = 6\text{A}$ (8 x 20 μs pulse, I/O to GND)		14.0	15.0	V
Clamping Voltage	V_C	$I_{PP} = 10\text{A}$ (8 x 20 μs pulse,Pin 4 to GND)			16.0	V
Junction Capacitance	C_J	$V_{pin4} = 5\text{V}$, I/O=0V, $f = 1\text{MHz}$,I/O-GND		1.0	1.4	pF
Junction Capacitance	C_J	$V_{pin4} = 5\text{V}$, I/O=0V, $f = 1\text{MHz}$,I/O-I/O pins		0.5	0.8	pF

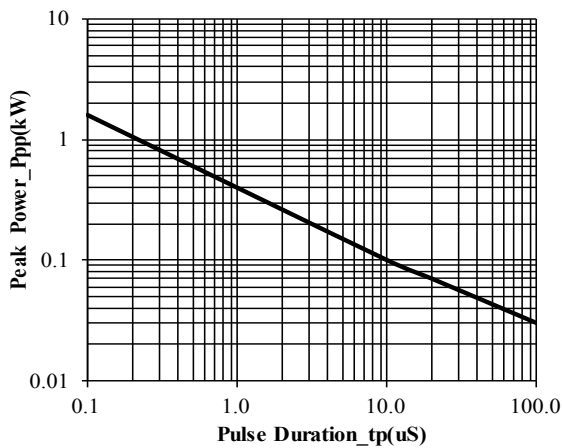
RATING AND CHARACTERISTIC CURVES (ESD05V14T-LC)



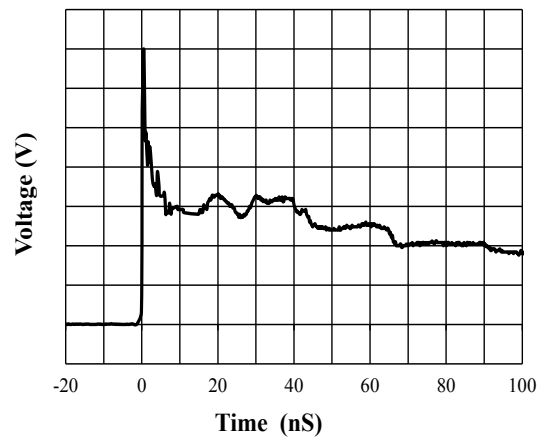
Junction Capacitance vs. Reverse Voltage



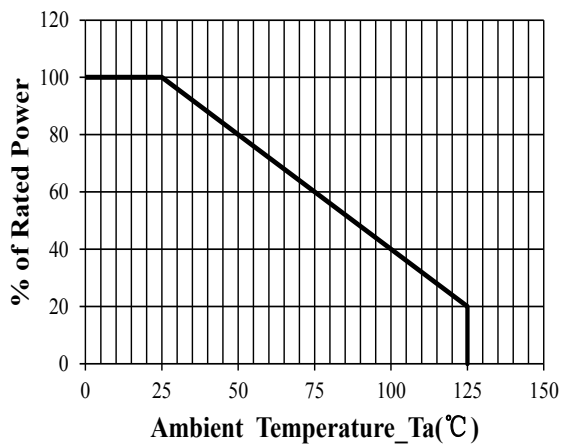
Clamping Voltage vs. Peak Pulse Current



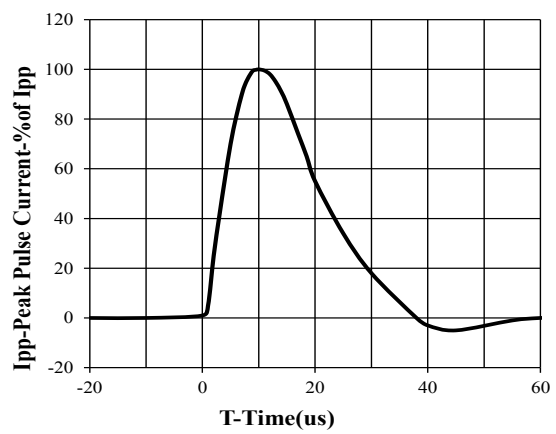
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

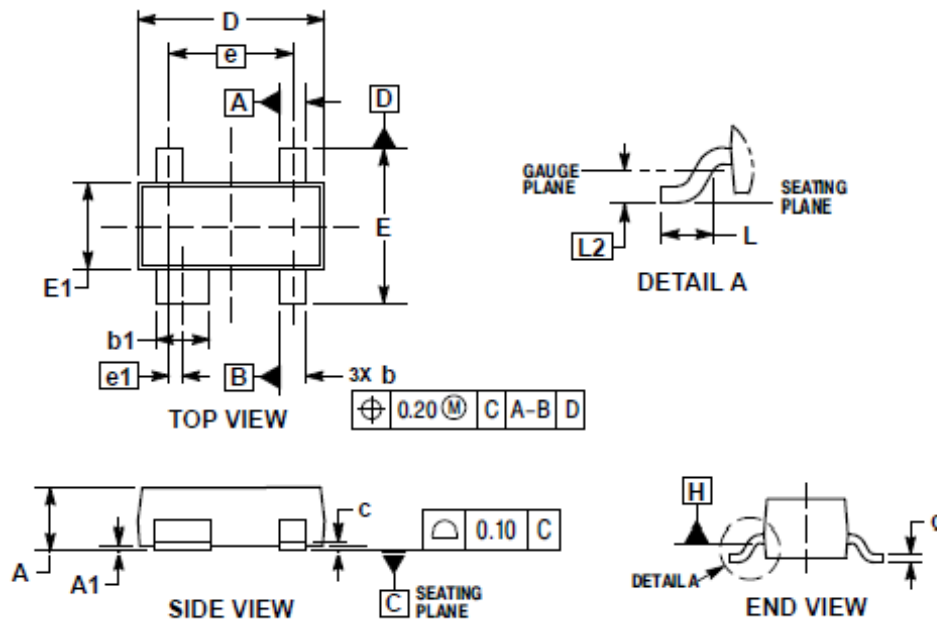


Power Derating Curve



8 X 20us Pulse Waveform

SOT-143 PACKAGE OUTLINE DIMENSIO



DIM	MILLIMETERS	
	MIN	MAX
A	0.80	1.12
A1	0.01	0.15
b	0.30	0.51
b1	0.75	0.94
c	0.08	0.20
D	2.80	3.05
E	2.10	2.64
E1	1.20	1.40
e	1.92 BSC	
e1	0.20 BSC	
L	0.35	0.70
L2	0.25 BSC	