

为您的产品保驾护航

PRODUCT DATASHEET

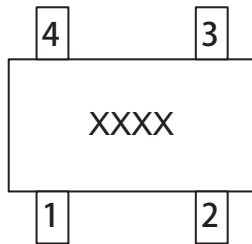
Electro-Static Discharge

JET143-5V ESD

Features

- Package: SOT-143
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- 4-pin SOT-143 package
- Protects two data lines and one power line
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 8A (8/20 μs)
- RoHS compliant

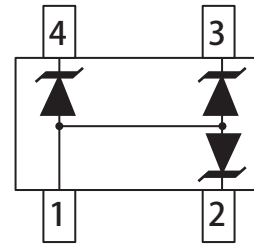
Pin Description



Applications

- USB 2.0
- Cellular Handsets and Accessories
- Notebooks and Handhelds
- Personal Digital Assistants
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players, Keypads, Side Keys, LCD

Schematic Diagram



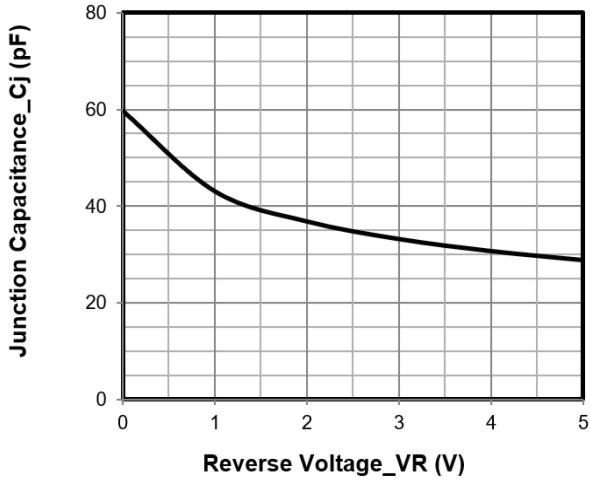
Limiting Values ($T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified)

Symbol	Parameter	Conditions	Value	Unit
V _{ESD}	Electrostatic Discharge Voltage	IEC 61000-4-2; Contact Discharge	± 30	kV
		IEC 61000-4-2; Air Discharge	± 30	kV
PPP	Peak Pulse Power	$t_P=8/20\mu\text{s}$	100	W
I _{PP}	Peak Pulse Current	$t_P=8/20\mu\text{s}$	8	A
T _J	Operating Temperature Range	-	-55 to +125	$^\circ\text{C}$
T _{stg}	Storage Temperature Range	-	-55 to +150	$^\circ\text{C}$

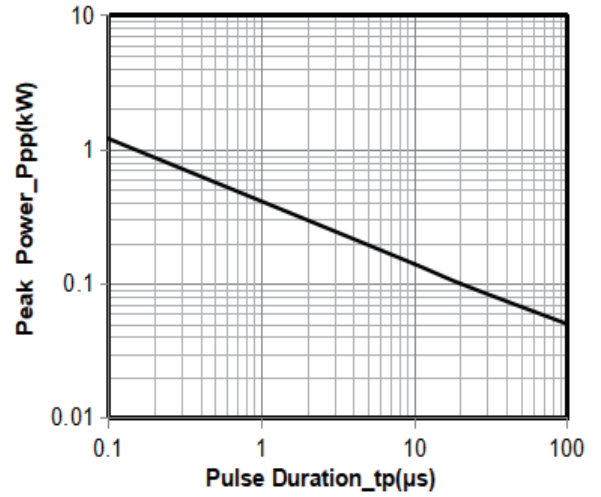
Electrical Characteristics ($T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V _{RWM}	Reverse Working Voltage	Any I/O pin to ground	-	-	5	V
V _{BR}	Breakdown Voltage	I _T =1mA, any I/O pin to ground	6.0	-	-	V
I _R	Reverse Leakage Current	V _{RWM} =5V; any I/O pin to ground	-	-	0.2	μA
V _C	Clamping Voltage	I _{PP} =1A(8x20 μs pulse); any I/O pin to ground	-	-	8	V
V _C	Clamping Voltage	I _{PP} =8A(8x20 μs pulse); any I/O pin to ground	-	-	12.5	V
C _J	Junction Capacitance	V _R =0V, f=1 MHz, between I/O pins	-	30	-	pF
C _J	Junction Capacitance	V _R =0V, f=1 MHz, any I/O pin to ground	-	60	-	pF

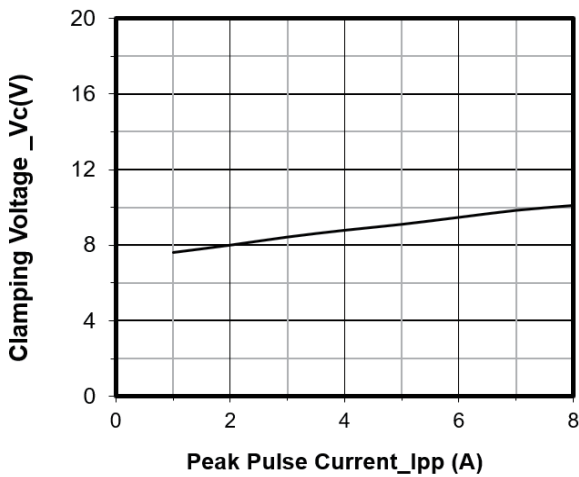
Typical Characteristics



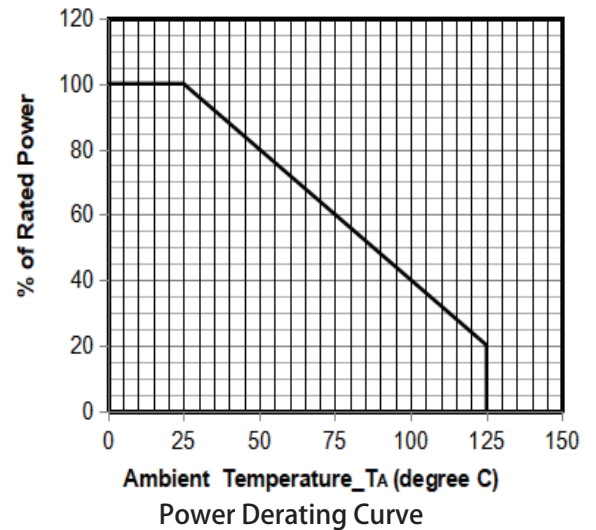
Junction Capacitance vs. Reverse Voltage



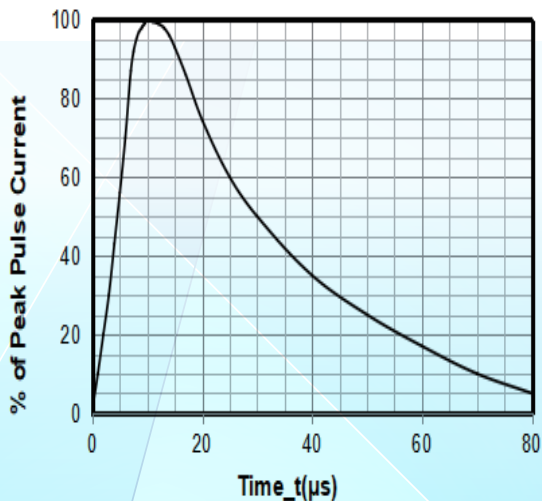
Peak Pulse Power vs. Pulse Time



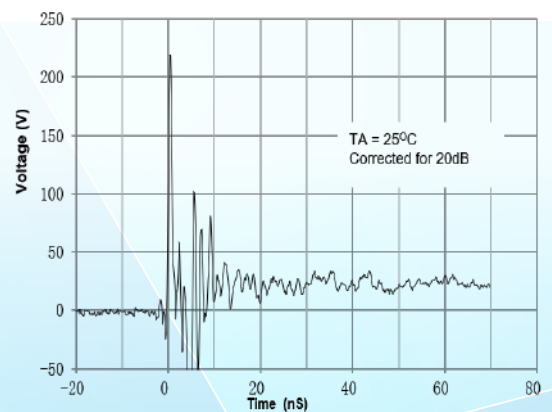
Clamping Voltage vs. Peak Pulse Current (tp = 8/20 μs)



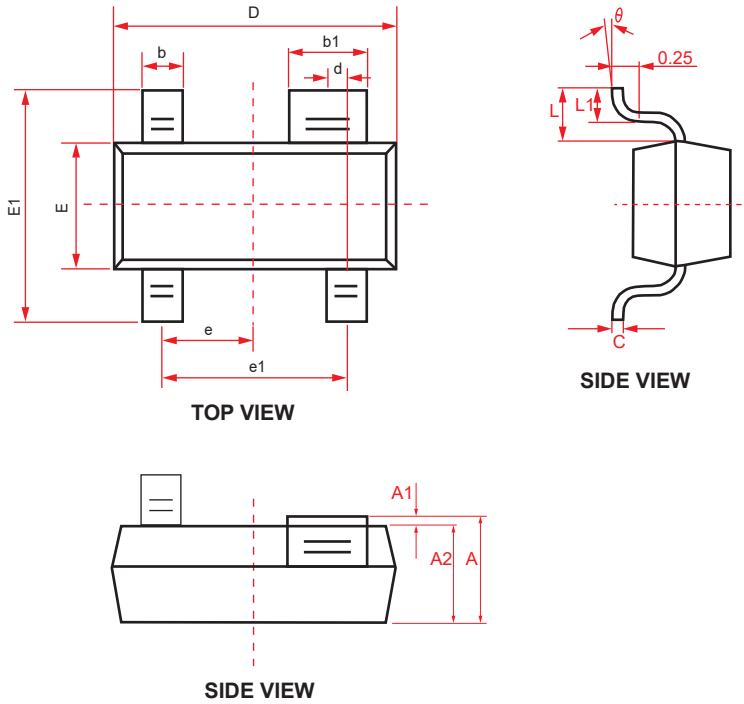
Power Derating Curve



8x20 μs Pulse Waveform



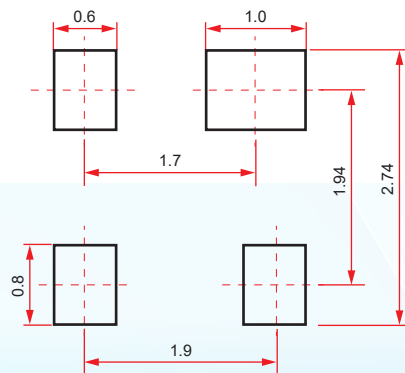
ESD Clamping Voltage
8 kV Contact per IEC61000-4-2

Physical Dimensions(mm.)


Symbol	Dimensions In Millimeters		
	Min	NoM	Max
A	0.90	-	1.15
A1	0.00	0.05	0.10
A2	0.90	-	1.05
b	0.30	0.40	0.50
b1	0.75	-	0.90
c	0.08	-	0.15
D	2.80	2.90	3.00
d	0.20 Typ		
E	1.20	1.30	1.40
E1	2.25	2.40	2.55
e	0.95 Typ		
e1	1.80	1.90	2.00
L	0.55 Ref		
L1	0.30	0.40	0.50
θ	0°	-	8°

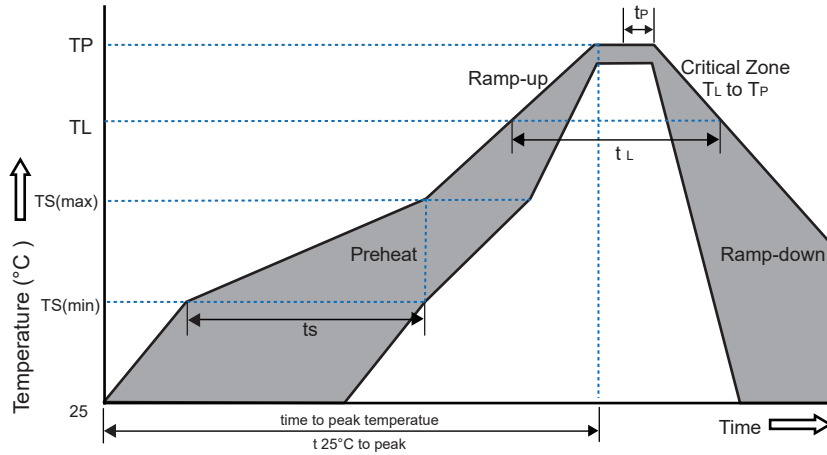
Suggested Land Pattern

Unit: mm


Packaging Quantity

Part Number	Delivery Form	Delivery Quantity
JET143-5V	7"T&R	3,000

Soldering Parameters



Reflow Condition		Pb-Free Assembly
Pre-heat	-Temperature Min($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time(Min to Max)(t_s)	60~180 secs.
Average ramp up rate (Liquid us Temp(T_L) to peak)		3°C/sec. Max
Ts(max) to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217°C
	-Temperature (t_L)	60~150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
xTime 25°C to Peak Temp (TP)		8 min. Max
Do not exceed		+260°C

Part Number System

JE T143 - 5V

