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PRODUCT DATASHEET

Electro-Static Discharge

JED323-15V-C ESD

Features

- Package: SOD-323
- 450W peak pulse power (8/20 μ s)
- Protects one data or power line
- Ultra low leakage: nA level
- Operating voltage: 15V
- Ultra low clamping voltage
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: ± 30 kV
 - Contact discharge: ± 30 kV
 - IEC61000-4-5 (Lightning) 18A (8/20 μ s)
- RoHS compliant

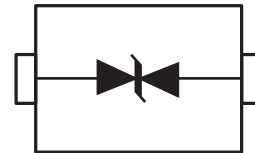
Pin Description



Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Peripherals
- Pagers Peripherals
- Desktop and Servers

Schematic Diagram



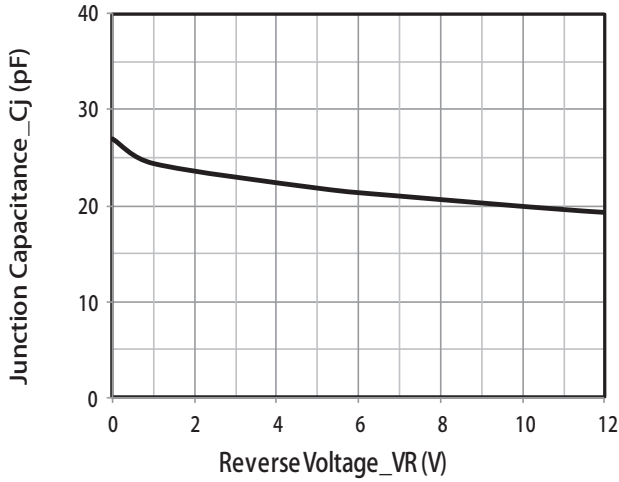
Limiting Values($T_A = 25^\circ\text{C}$, unless otherwise specified)

Symbol	Parameter	Conditions	Value	Unit
V_{ESD}	Electrostatic Discharge Voltage	IEC 61000-4-2;Contact Discharge	± 30	kV
P_{PP}	Peak Pulse Power	IEC 61000-4-2;Air Discharge	± 30	kV
I_{PP}	Peak Pulse Current	$t_P=8/20\mu s$	450	W
T_J	Peak Pulse Current	$t_P=8/20\mu s$	18	A
T_{stg}	Operating Temperature Range	-	-55 to +125	$^\circ\text{C}$
	Storage Temperature Range	-	-55 to +150	$^\circ\text{C}$

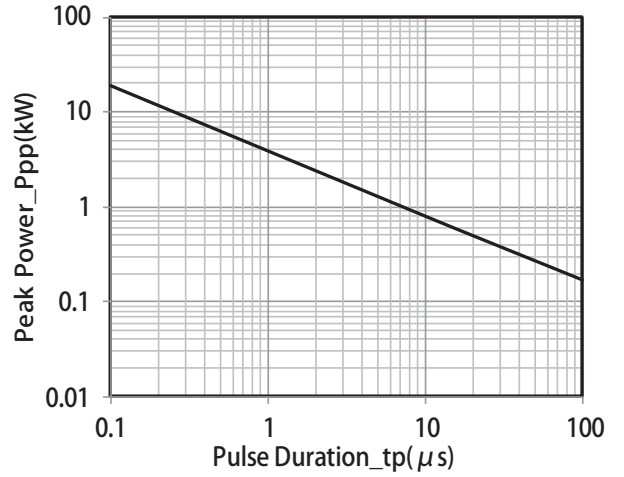
Electrical Characteristics($T_A = 25^\circ\text{C}$, unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V_{RWM}	Reverse Working Voltage	$T_A=25^\circ\text{C}$	-	-	15	V
V_{BR}	Breakdown Voltage	$I_T=1\text{mA}$	16.7	-	-	V
I_R	Reverse Leakage Current	$V_{RWM}=15\text{V}; T_A=25^\circ\text{C}$	-	-	0.5	μA
V_C	Clamping Voltage	$I_{PP}=1\text{A}(8\times 20\mu s \text{ pulse})$	-	-	20	V
V_C	Clamping Voltage	$I_{PP}=18\text{A}(8\times 20\mu s \text{ pulse})$	-	-	25	V
C_J	Junction Capacitance	$V_R=0\text{V}, f=1 \text{ MHz}$	-	-	50	pF

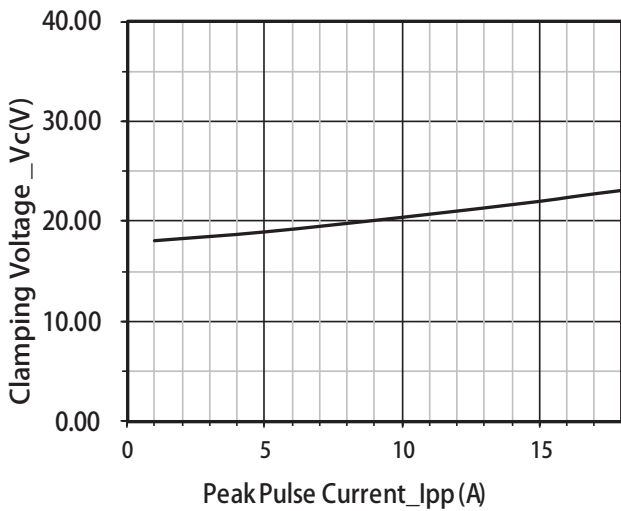
Typical Characteristics



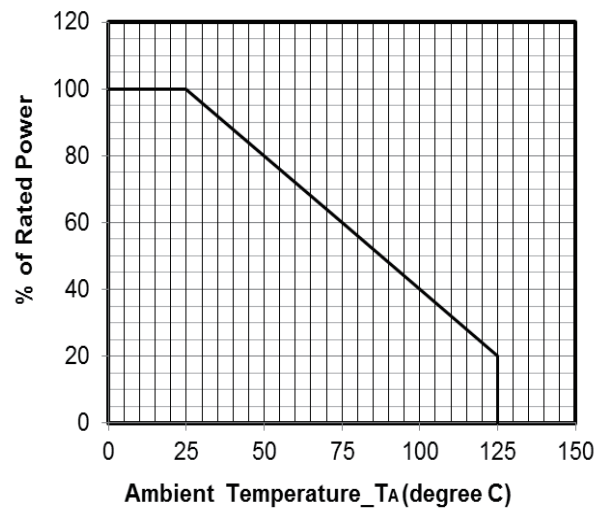
Junction Capacitance vs. Reverse Voltage



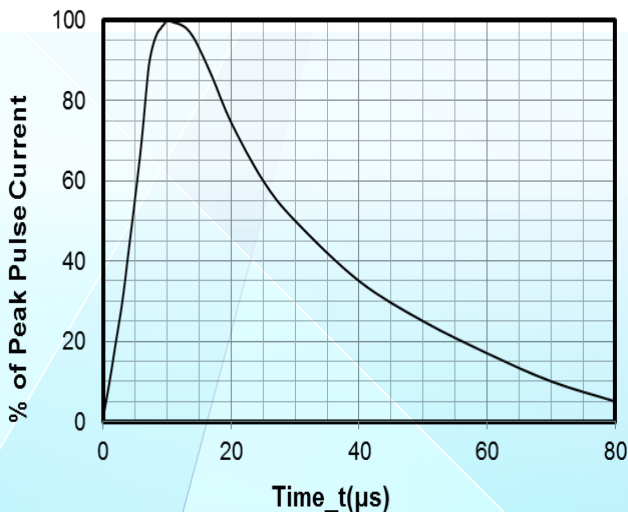
Peak Pulse Power vs. Pulse Time



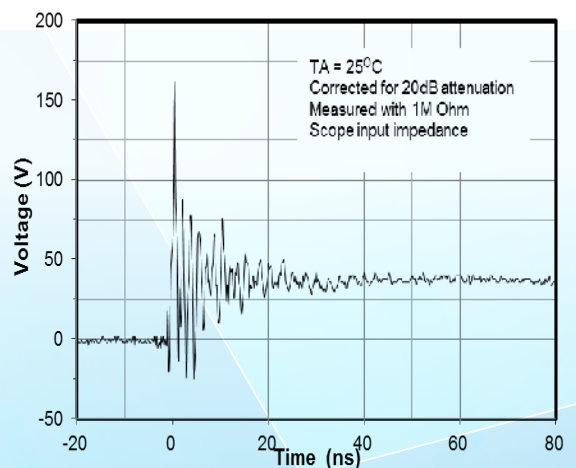
Clamping Voltage vs. Peak Pulse Current (t_p = 8/20 μs)



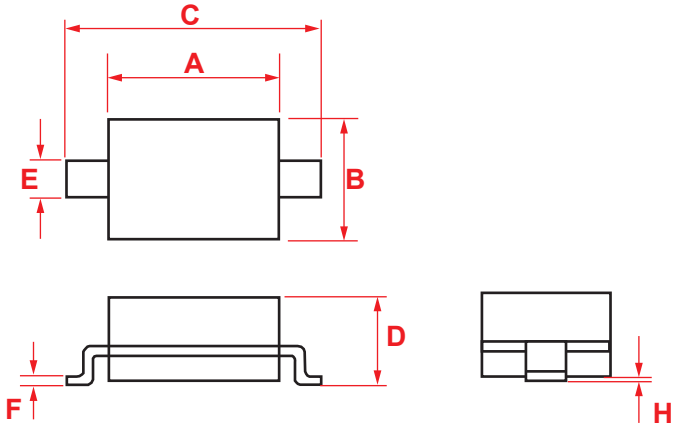
Power Derating Curve



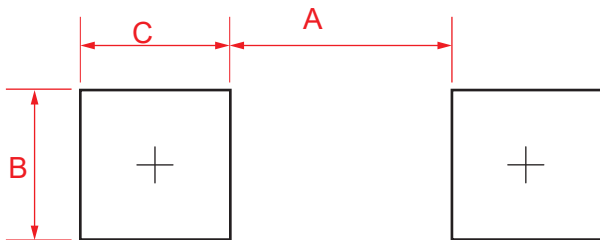
8 X 20 μs Pulse Waveform



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

Physical Dimensions(mm.)


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.50	1.80	0.060	0.071
B	1.20	1.40	0.045	0.054
C	2.30	2.70	0.090	0.107
D	-	1.10	-	0.043
E	0.30	0.40	0.012	0.016
F	0.10	0.25	0.004	0.010
H	-	0.10	-	0.004

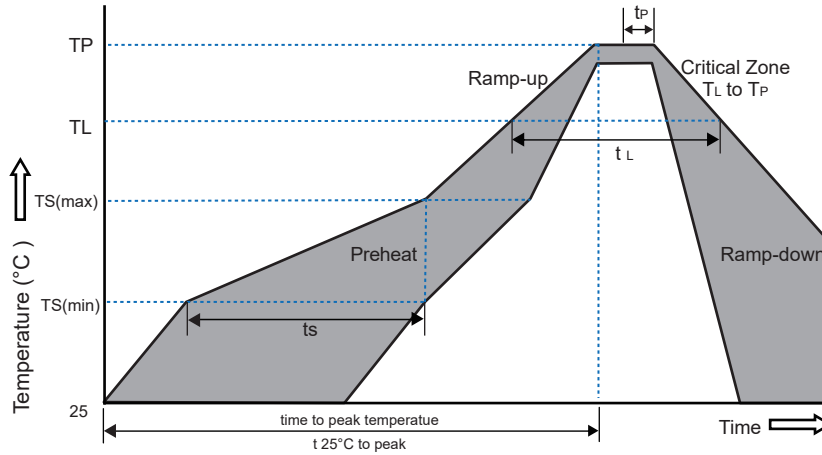
Suggested Land Pattern


Symbol	Dimensions In Millimeters	Dimensions In Inches
A	3.15	0.120
B	0.80	0.031
C	0.80	0.031

Packaging Quantity

Part Number	Delivery Form	Delivery Quantity
JED323-15V-C	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 D323 - 15V - C

