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PRODUCT DATASHEET

Electro-Static Discharge

JED523-5V-LC ESD

Features

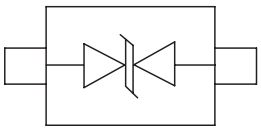
- Package: SOD-523
- Protects one data or power line
- Ultra low leakage: nA level
- Operating voltage: 5V
- Low clamping voltage
- Complies with following standards:
  - – IEC 61000-4-2 (ESD) immunity test
    Air discharge: ±15kV
    Contact discharge: ±8kV
  - – IEC61000-4-5 (Lightning) 2A (8/20μs)
- RoHS compliant

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays,USB2.0

Pin Description

Schematic Diagram



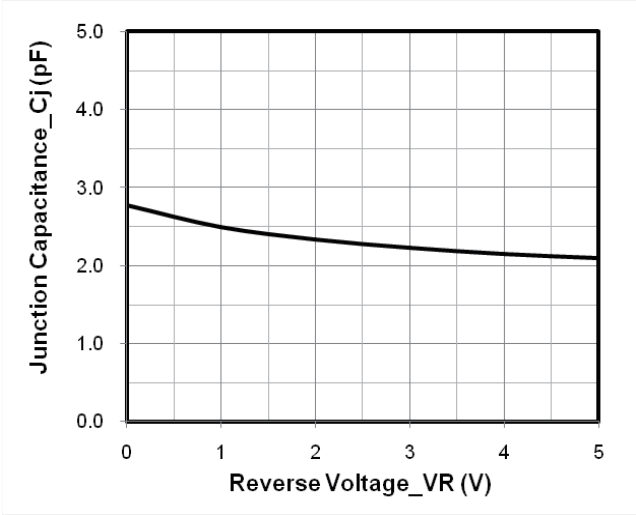
Limiting Values(T_A = 25 °C, unless otherwise specified)

Symbol	Parameter	Conditions	Value	Unit
V_{ESD}	Electrostatic Discharge Voltage	IEC 61000-4-2;Contact Discharge	±8	kV
		IEC 61000-4-2;Air Discharge	±15	kV
T_J	Operating Temperature Range	-	-55 to +125	°C
T_{stg}	Storage Temperature Range	-	-55 to +150	°C

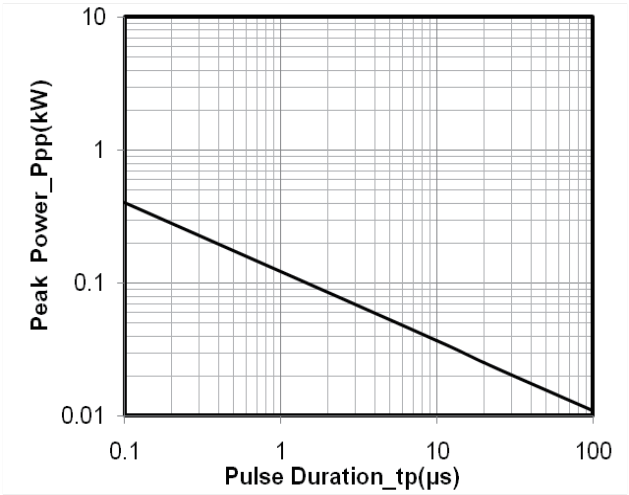
Electrical Characteristics(T_A = 25 °C, unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ.	Max	Unit
V_{RWM}	Reverse Working Voltage	T_A=25°C	-	-	5	V
V_{BR}	Breakdown Voltage	I_T=1mA	6	-	-	V
I_R	Reverse Leakage Current	V_{RWM}=5V;T_A=25°C	-	-	0.2	μA
V_C	Clamping Voltage	I_{PP}=1A(8x20μs pulse)	-	-	10	V
C_J	Junction Capacitance	V_R=0V,f=1 MHZ	-	2.5	3.0	pF

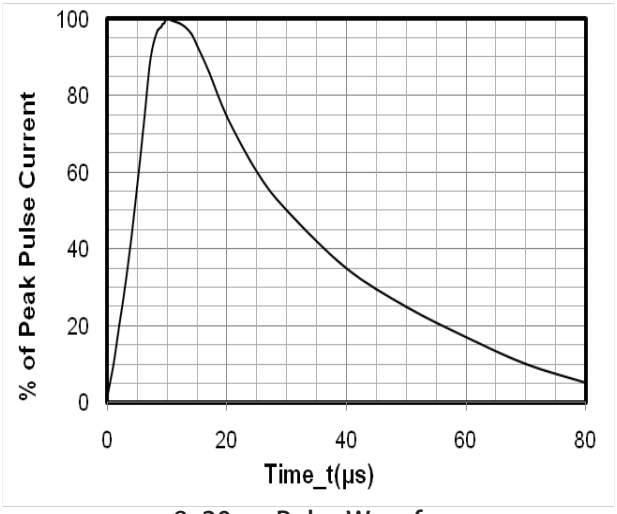
Typical Characteristics



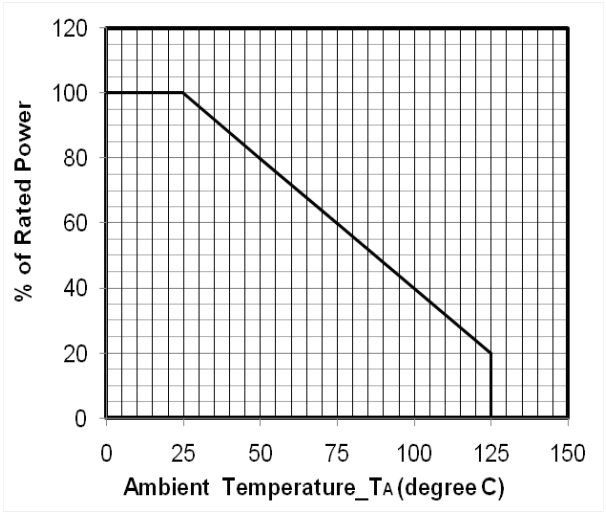
Junction Capacitance vs. Reverse Voltage



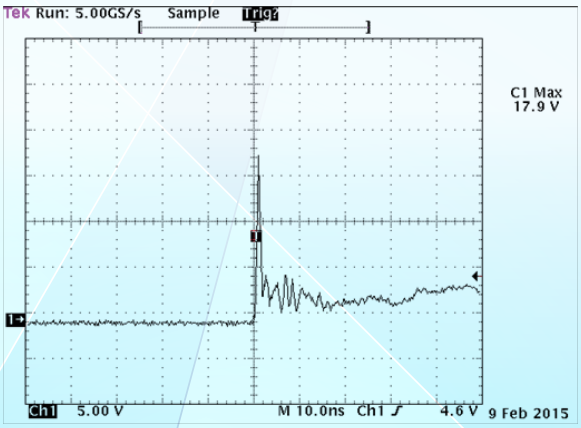
Peak Pulse Power vs. Pulse Time



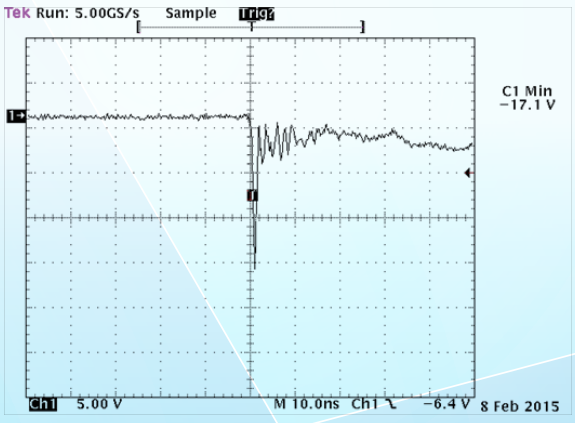
8x20 μs Pulse Waveform



Power Derating Curve

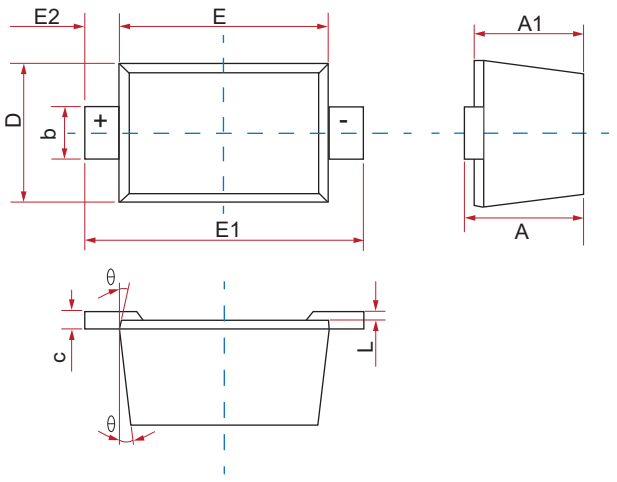


Note: Data is taken with a 10x attenuator
ESD Clamping Voltage
+8 kV Contact per IEC61000-4-2



Note: Data is taken with a 10x attenuator
ESD Clamping Voltage
-8 kV Contact per IEC61000-4-2

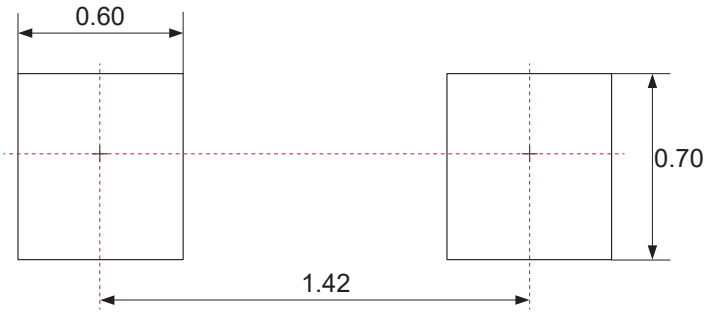
Physical Dimensions(mm.)



Symbol	Dimensions In Millimeters			Dimensions In Inches		
	Min	Nom	Max	Min	Nom	Max
A	0.51	--	0.77	0.020	--	0.031
A1	0.50	--	0.70	0.020	--	0.028
b	0.25	--	0.35	0.010	--	0.014
c	0.08	--	0.15	0.003	--	0.006
D	0.75	--	0.85	0.030	--	0.033
E	1.10	--	1.30	0.043	--	0.051
E1	1.50	--	1.70	0.059	--	0.067
E2		0.20REF			0.008REF	
L	0.01	--	0.07	0.001	--	0.003
⊖		7°REF			7°REF	

Suggested Land Pattern

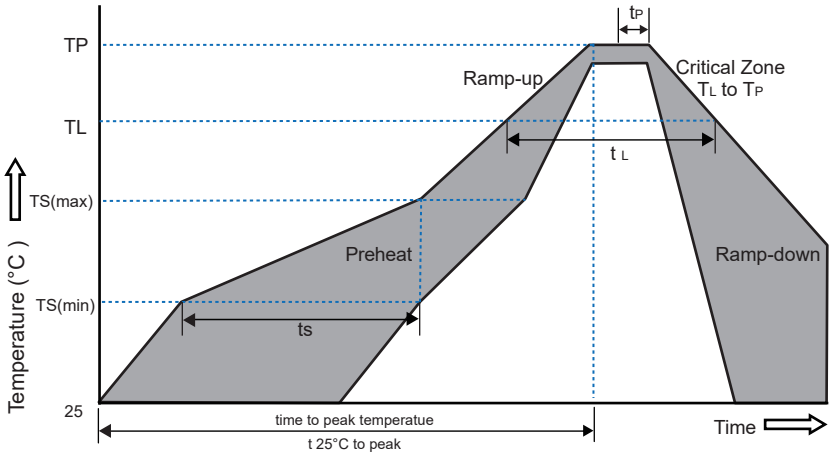
Unit:mm



Packaging Quantity

Part Number	Delivery Form	Delivery Quantity
JED523-5V-LC	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)(ts)	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 D523 - 5V - L C

- C=Bi-directional
  Blank=Uni-directional
- L=Low Capacitance
- Working Voltage: 5V
- SOD-523
- JDT ESD