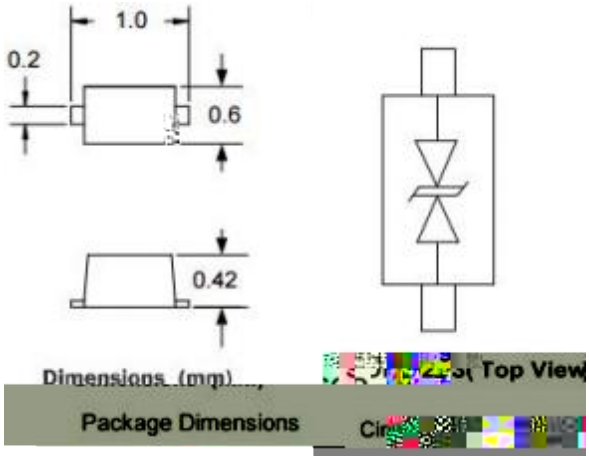
Description

The ESD9B5V0 is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space is at a premium .

Features

- Small Body Outline Dimensions:1.0 mm x 0.60 mm
- Low Body Height: 0.43 mm Max
- Low Clamping Voltage
- Response Time is Typically < 1 ns
- Compli_i ¡ m"



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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	68	W
Peak Pulse Current (8/20μs)	Ipp	5.5	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±20 ±20	kV
Operating Temperature Range	TJ	−55 to +150	°C
Storage Temperature Range	Tstg	−55 to +150	°C

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

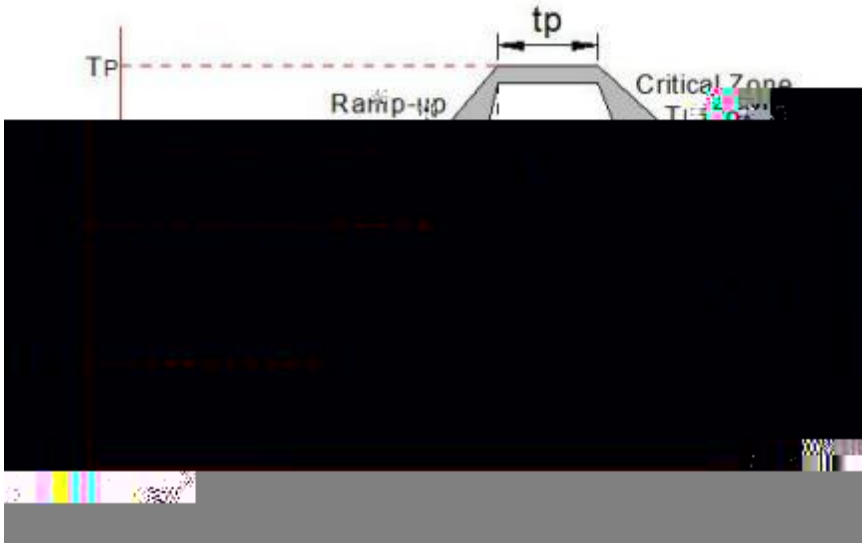
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			5	V	
Breakdown Voltage	VBR	5.7		9	V	IT = 1mA
Reverse Leakage Current	IR			0.1	uA	VRWM = 3.3V
Clamping Voltage	VC			12	V	IPP = 1A (8 x 20uS pulse)
Clamping Voltage	VC			17	V	IPP = 5.5A (8 x 20uS pulse)
Junction Capacitance	CJ	8	8.9	15	pF	VR = 0V, f = 1MHz

ESD9B5V0

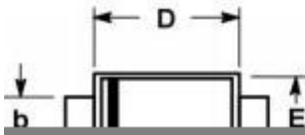
1-Line Bi-directional TVS Diode

Soldering parameters

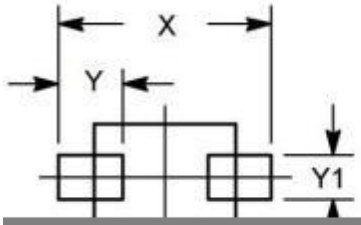
Reflow Condition		Pb-Free assembly (see FIG.2)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150
	-Temperature Max($T_{s(max)}$)	+200
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 /sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 /sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)
Time within 5 of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6 /sec. Max
Time 25 to Peak Temp (T_P)		8 min. Max
Do not exceed		+260



Package mechanical data



Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	1.20	0.048
Y	0.36	0.014

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