KPESD5V0H1BSF

ESD Protection Diode

Datasheet

Features

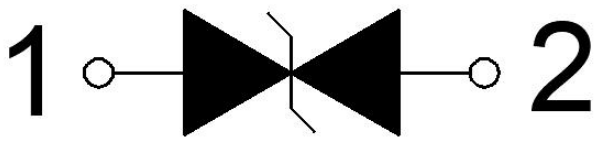
- 2-pin lead-less package
- Low junction capacitance (Max value: 0.45pF)
- Peak Pulse Current (8/20μs) MAX：4A
- IEC61000-4-2 (ESD) ±25kV (air), ±22kV (contact)
- Low clamping voltage
- Low leakage current
- Working voltages：5V
- RoHS Compliant

Mechanica Characteristics

- Package: DFN0603
- Lead Finish:Matte Tin
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Tape Reel :15000pcs

Appearance & Symbo



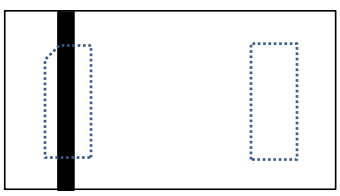


Bi-directional

Applications

- High Speed Line :USB1.0/2.0/3.0, VGA, DVI.SDI
- High Definition Multi-Media Interface(HDMI1.3/1.4/2.0）
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Peripherals
- Cellular handsets and accessories
- Portable instrumentation

Marking Information



Absolute Maximum Ratings (T=25ºC, RH=45%-75%, unless otherwi

Parameters	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P_{PP}	100	W
Peak Pulse Current (8/20μs)	I_{PP}	4	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±25 ±22	KV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

Electrical Characteristics (T=25ºC, RH=45%-75%, unless otherwise noted

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	I_R = 1mA	6		9	V
Reverse Leakage Current	I_R	V_R = 5V			0.2	uA
Clamping voltage	V_C	I_{PP} = 1A,T_P=8/20us			12	V
Clamping voltage	V_C	I_{PP} = 4A,T_P=8/20us			25	V
Junction capacitance	C_J	V_R =0V,f =1MH_Z		0.2	0.45	pF

Typical Characteristics

FIG1：Power rating derating curve

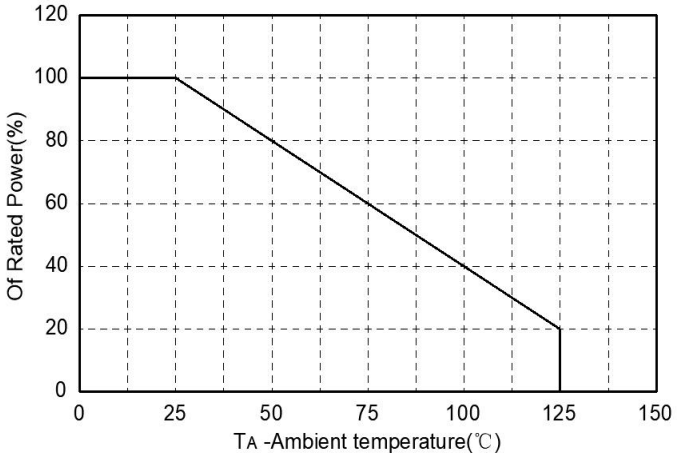


FIG2： pulse Waveform

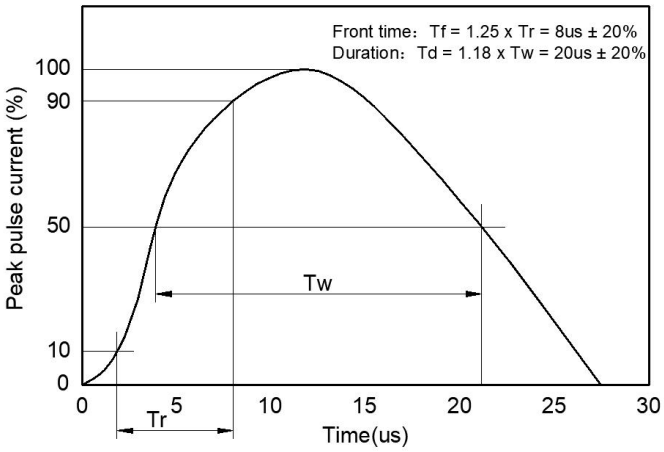


FIG3：Capacitance between teminals charateristics

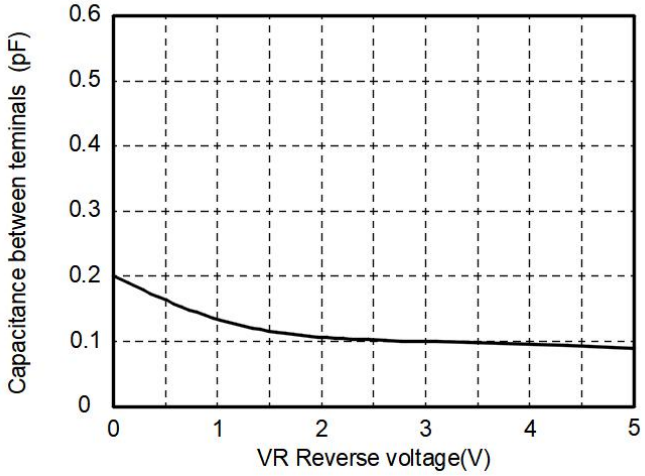
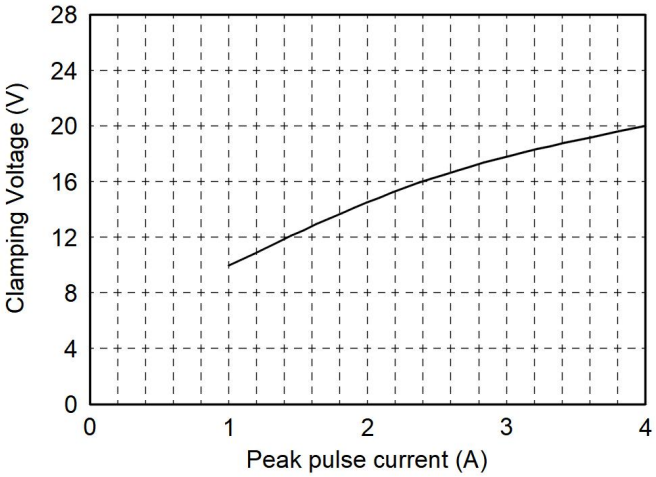
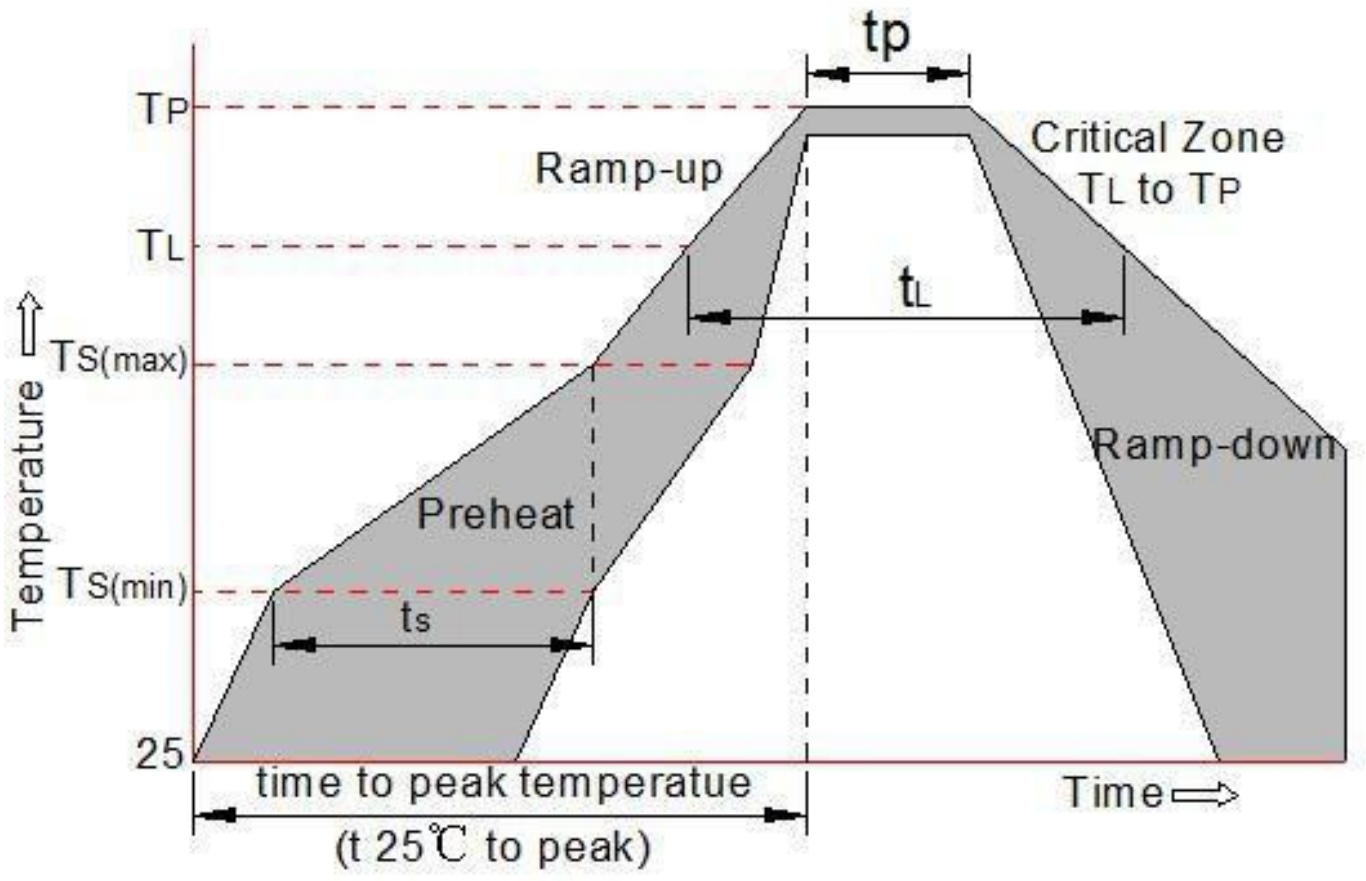


FIG4: Clamping Voltage vs. Peak Pulse Current

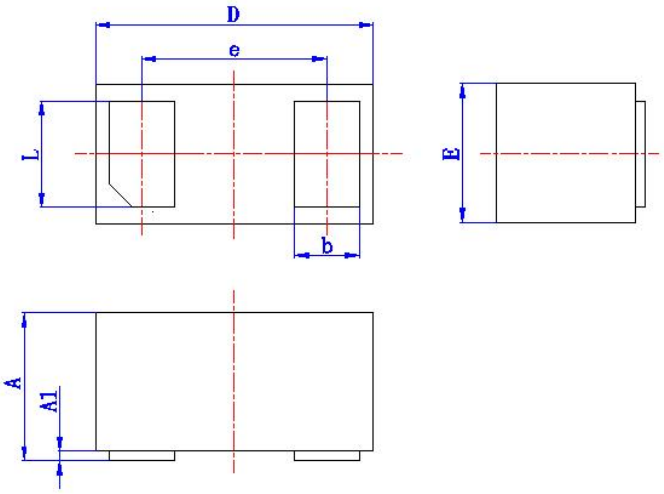


Soldering parameters

Reflow Condition		Pb-Free assembly see as bellow
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℃

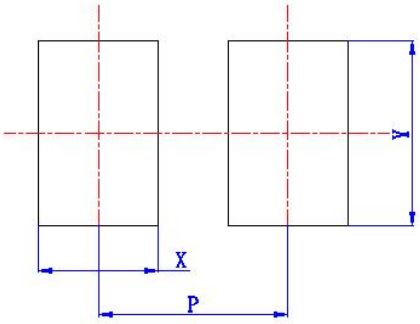


Package mechanical data



Symbol	Dimension in Millimeters	
	min	max
A	0.27	0.37
A1	0	0.05
D	0.55	0.65
E	0.25	0.36
e	(0.4)	
b	0.09	0.2
L	0.17	0.25

Suggested Land Pattern



Symbol	Dimension in Millimeters
	typ
X	(0.32)
Y	(0.40)
P	(0.47)