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TPCLAMP2011P

Surge Protection for USB Interfaces VBUS

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Features

* ESD and surge protection for USB Voltage Bus to
  – IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±30kV
  Contact discharge: ±30kV
  –IEC61000-4-5 (Lightning) 80A (8/20μs)
  –IEC61000-4-4 (EFT) 40A (5/50μs)
* RoHS Compliant

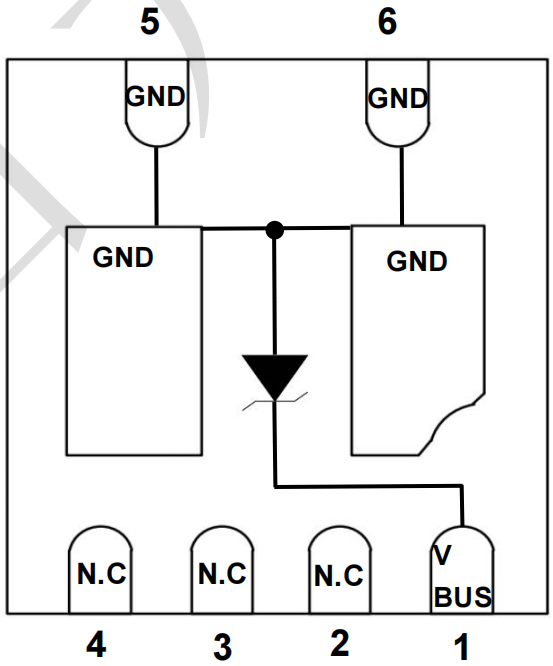
Mechanical Characteristics

* Package: SLP2018P6 Package
* Lead Finish: Matte Tin
* Case Material: “Green” Molding Compound.
* UL Flammability Classification Rating 94V-0
* Moisture Sensitivity: Level 3 per J-STD-020
* Terminal Connections: See Diagram Below
* Shipping Qty :10000 /13Inch Tape & Reel

Applications

* Personal Digital Assistants
* Notebooks and Handhelds
* Portable Instrumentation

Dimensions and Pin Configuration



Bottom View

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

VBus TVS

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	3000	W
Peak Pulse Current (8/20μs)	I_{PP}	80	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±30 ±30	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	Tstg	−55 to +150	°C

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

VBus TVS (Pin 1)

Pin 1 to GND

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			26	V	
Breakdown Voltage	V_{BR}	28	30	31	V	I_T = 1mA
Reverse Leakage Current	I_R			0.3	μA	V_{RWM} = 26 V
Forward Voltage	V_F		0.8	1.2	V	I_F=10mA
Clamping Voltage	V_C			35	V	I_{PP} = 10A (8 x 20μs pulse)
Clamping Voltage	V_C		40	45	V	I_{PP} = 58A (8 x 20μs pulse)
Junction Capacitance	C_J			900	pF	VR = 0V, f = 1MHz

Typical Performance Characteristics (T_A=25℃ unless otherwise Specified)

Fig1. 8/20μs Pulse Waveform

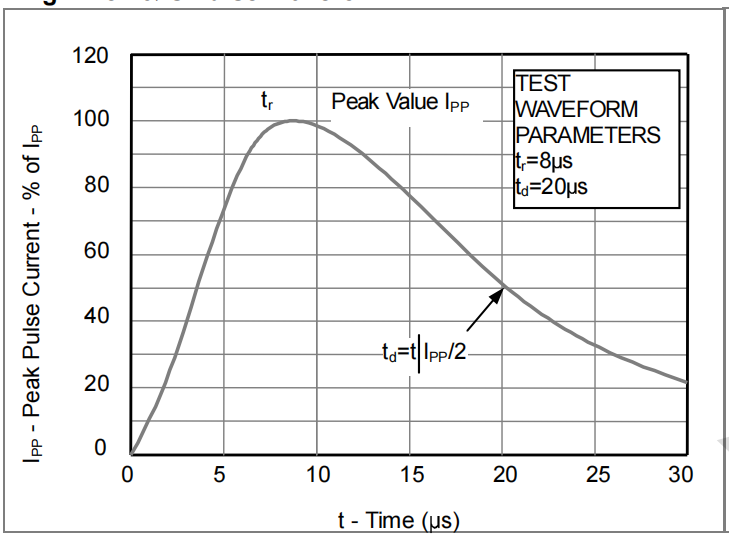


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

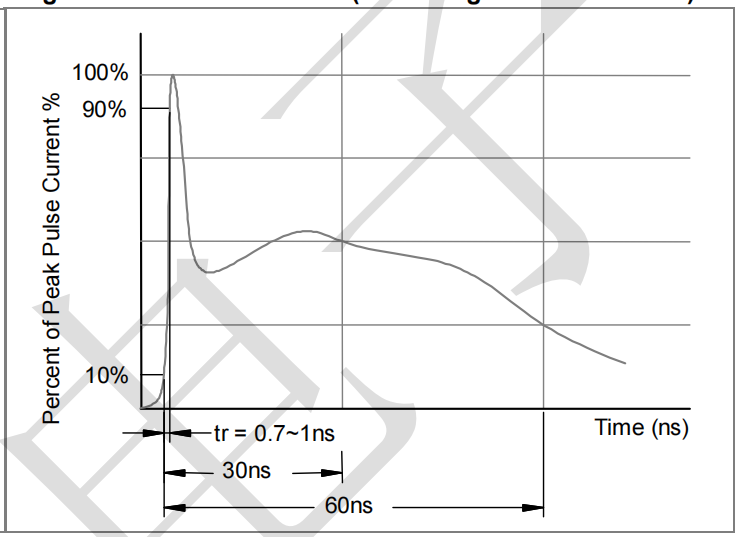
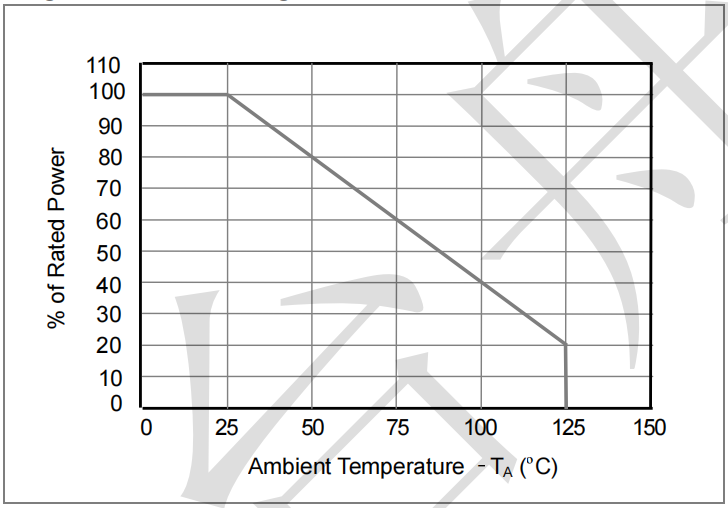
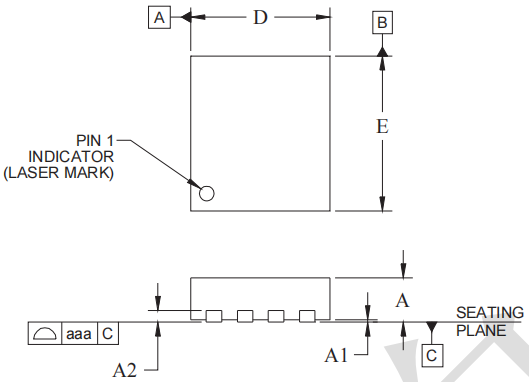


Fig3. Power Derating Curve



Outline Drawing - SLP2018P6



DIMENSIONS			
DIM	MILLIMETERS		
	MIN	NOM	MAX
A	0.50	0.575	0.65
A1	0.00	0.03	0.05
A2		(0.127)	
b	0.15	0.20	0.25
D	1.70	1.80	1.90
E	1.90	2.00	2.10
D1	0.30	0.45	0.55
E1	0.69	0.84	0.94
e		0.40 BSC	
e1		0.80 BSC	
L	0.25	0.30	0.35
N		6	
aaa		0.08	
bbb		0.10	

