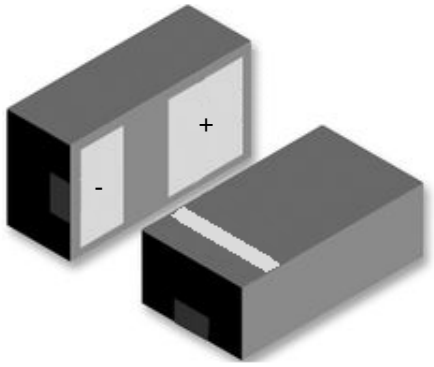
STEIFPOWER TECHNOLOGY

SP**ES7VD1608-2U**
High-Surge ESD Protection Diode

Features

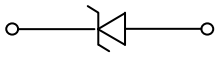
- 1040Watts peak pulse power (tp = 8/20μs)
- DFN1608 package
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- High surge ability
- Protection one data/power line to:
  IEC 61000-4-2 ±30kV contact ±30kV air
  IEC 61000-4-4 (EFT) 40A (5/50ns)
  IEC 61000-4-5 (Lightning) 65A (8/20μs)
- RoHS compliant



DFN1608

Applications

- Computers
- Telecom system
- Industrial equipments
- Consumer electronic applications
- USB PD and other VCC bus



Schematic Diagram

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (T_P=8/20μS)	P_{PP}	1040	W
ESD Contact/Air Discharge (IEC-61000-4-2)	V_{ESD}	30/30	kV
Peak Pulse Current (t_P = 8/20μS)	I_{PP}	65	A
Maximum Surge Voltage (IEC-61000-4-5)	V_S	140	V
Junction Temperature	T_J	-55 to +125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

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

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse Stand-Off Voltage	V_{RWM}		-	-	7.0	V
Reverse Breakdown Voltage	V_{BR}	I_T=1mA	7.7	-	10	V
Reverse Leakage Current	I_R	V_R=7.0V	-	-	1	uA
Clamping Voltage (IEC 61000-4-5)	V_C	I_{PP}=65A	-	-	16	V
Trigger Voltage (IEC 61000-4-2)	V_T	V_{ESD}=8kV	-	90	-	V
Clamping Voltage (IEC 61000-4-2)	V_C	V_{ESD}=8kV	-	15	-	V
Junction Capacitance	C_J	V_R=0V, f=1MHz	-	-	500	pF

Typical Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

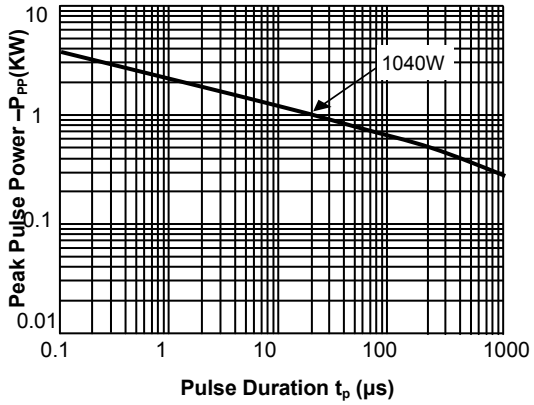


Fig.2 Pulse Derating Curve

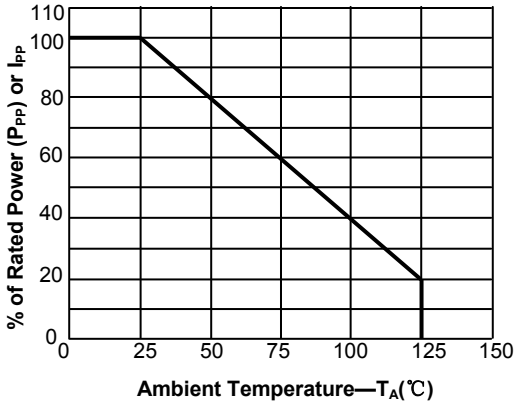


Fig.3 Pulse Waveform-8/20μs

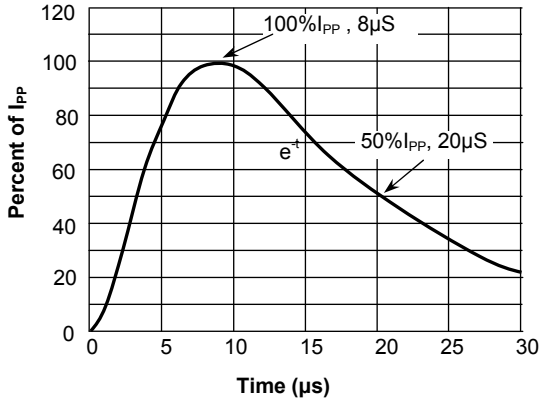
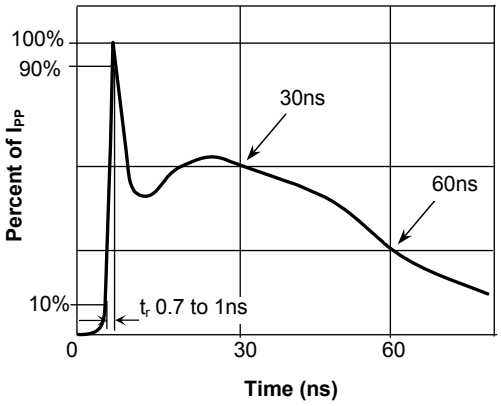
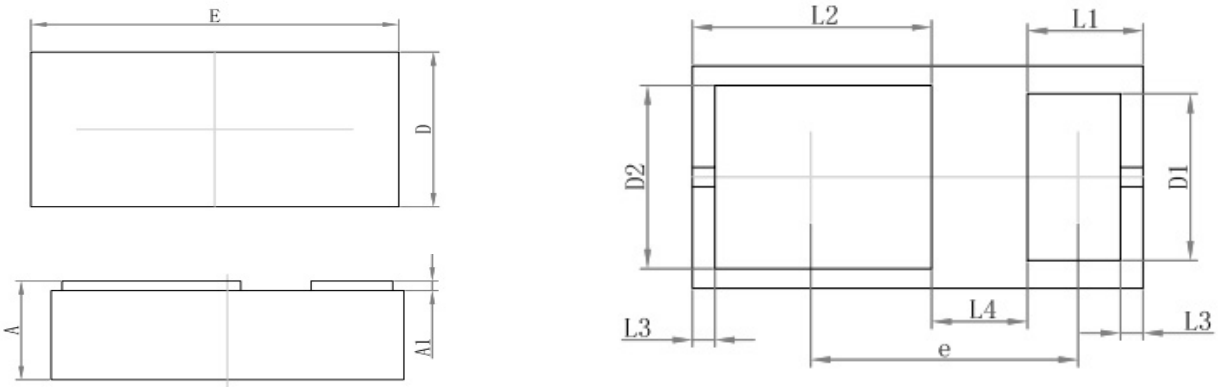


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

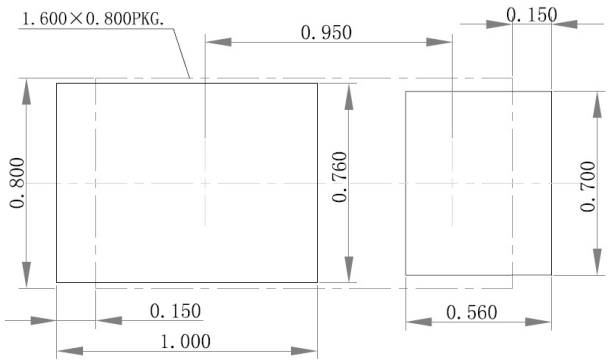


Package Outline Dimensions DFN1608



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.450	0.550	0.018	0.022
A1	0.010	0.090	0.000	0.004
D	0.750	0.850	0.030	0.033
D1	0.520	0.680	0.020	0.027
D2	0.600	0.760	0.024	0.030
E	1.550	1.650	0.061	0.065
L1	0.410 REF.		0.016 REF.	
L2	0.850 REF.		0.033 REF.	
L3	0.080 REF.		0.003 REF.	
L4	0.340 REF.		0.013 REF.	
e	0.900	1.000	0.035	0.039

Sugguested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:±0.050mm.
3.The pad layout is for reference purposes only.

Marking

Order Information

Device	Package	Carrier	Quantity	HSF Status
SPES7VD1608-2U	DFN1608	Tape & Reel	8000pcs / Reel	RoHS compliant