DESCRIPTION

The ESD7P51D is available in DFN1610 package.

FEATURE

- Peak pulse power: 2500 W (8/20 μs)
- Working voltage: 7V
- Low clamping voltage
- Solid-state silicon technology
- Ultra-small package: 1.6 × 1.0 × 0.5 mm
- Transient protection for high-speed data lines.
- IEC 61000-4-2 (ESD) compliance:
  ±30 kV Air
  ±30 kV Contact discharge

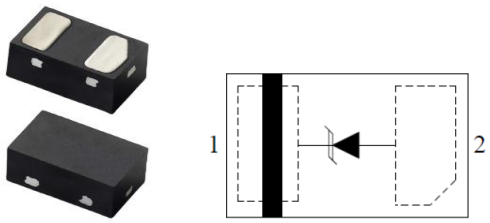
MECHANICAL CHARACTERISTICS

- DFN1610 package
- Flammability Rating: UL 94V-0
- High temperature soldering guaranteed: 260°C/10s

APPLICATION

- Power management
- Power supply protection

PIN DESCRIPTION



PIN#	DESCRIPTION
1	Cathode
2	Anode

ORDERING INFORMATION

Package Type	Part Number
DFN1610	ESD7P51D
Note	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

ABSOLUTE MAXIMUM RATINGS T_A = 25°C, unless otherwise noted.

P_{PP}, Peak Pulse Power (8/20μs)		2500W
V_{ESD}, ESD per IEC61000-4-2	Air	±30kW
	Contact	±30kW
T_{STG}, Storage Temperature Range		-55℃ ~ +125℃
T_J, Junction Temperature		125℃
T_{OPT}, Operating Temperature		-40℃ ~ +85℃
T_L, Lead Temperature		260℃

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS T_A = 25°C, unless otherwise noted.

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Reverse Working Voltage	V_{RWM}		-	-	7.0	V
Reverse Breakdown Voltage	V_{BR}	I_T = 1mA	7.5	-	-	V
Reverse Leakage Current	I_R	V_{RWM}=7V	-	-	100	nA
Clamping Voltage	V_C	I_{PP} = 20A, tp = 8/20μs	-	-	10	V
		I_{PP} = 100A, tp = 8/20μs	-	-	25	
Junction Capacitance	C_J	V_R = 0V, f = 1MHz	-	-	510	pF

ELECTRICAL CHARACTERISTICS CURVES

Fig 1. 8/20μs Waveform per IEC6100-4-5

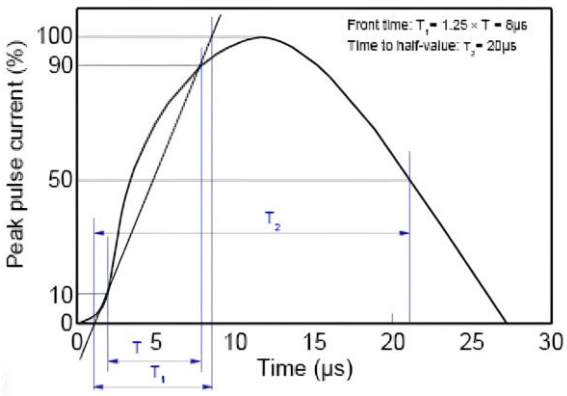


Fig 2. Contact Discharge Current Waveform per IEC6100-4-5

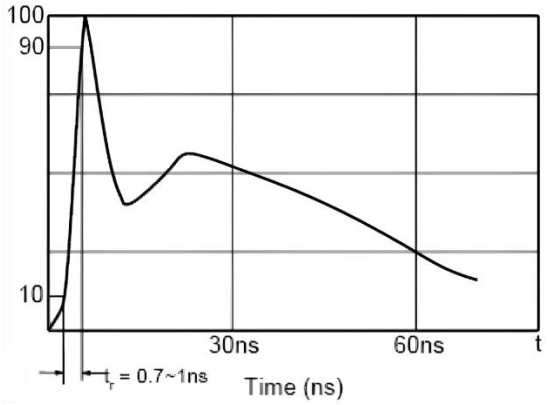


Fig 3. Non-repetitive peak pulse power vs Pulse time

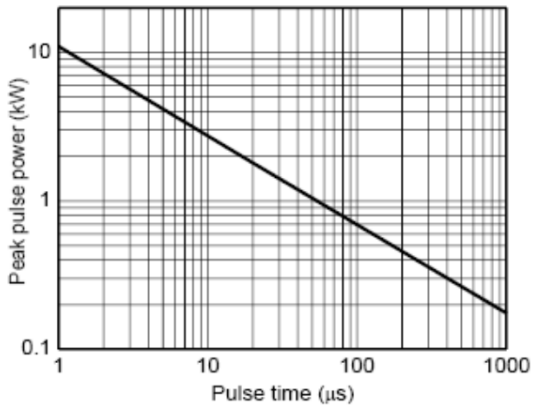
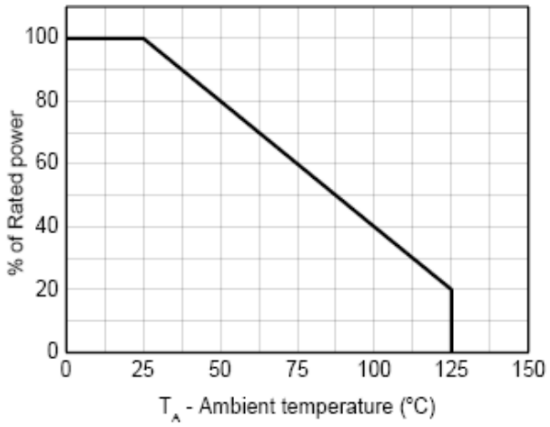
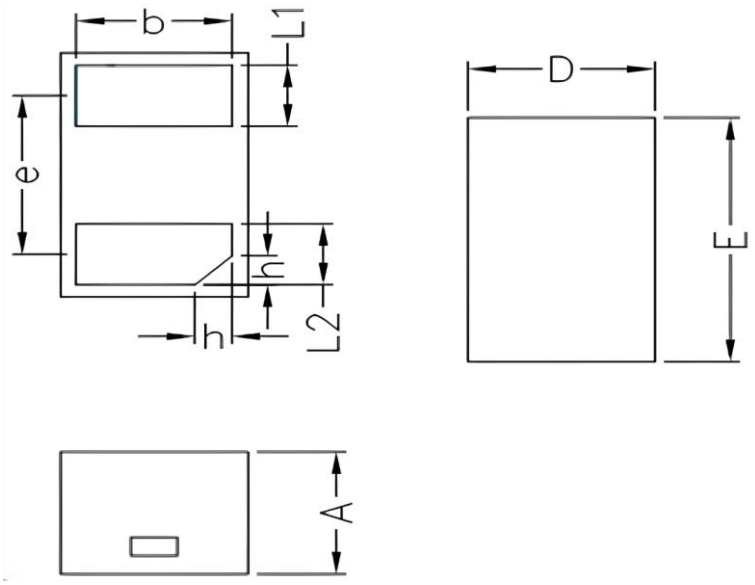


Fig 4. Power derating vs Ambient temperature



PACKAGE INFORMATION

Dimension in DFN1610 Package (Unit: mm)



SYMBOL	MIN	MAX
A	0.45	0.55
b	0.75	0.85
D	0.95	1.05
E	1.55	1.65
e	1.09BSC	
h	0.15	0.25
L1	0.35	0.45
L2	0.35	0.45

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