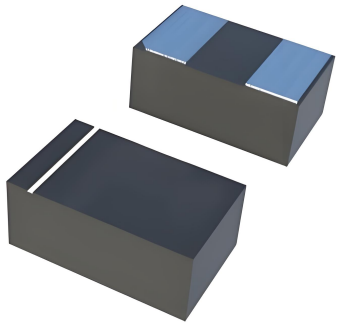
ESD Protection Diode

RLSD16Q051V

Product code: 10.26.16.0510

Features

- 1875W (t_p=8/20μs) Peak Pulse Power
- Uni-directional configurations
- Low clamping voltage
- Low leakage current
- Moisture sensitivity level: Level 1
- Storage Period: 2 years
- Solid-state silicon avalanche technology
- Meet IEC61000-4-2
  Contact discharge ±30kV
  Air discharge ±30kV



Applications

- Mobile Phones and Accessories
- Battery Protection
- USB VBus
- Power Line Protection
- Hand Held Portable Applications

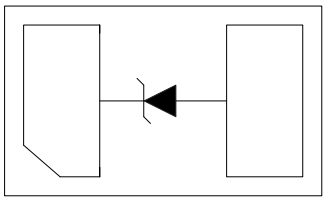
Meachanical Data

- DFN1610-2L package
- Molding compound flammability rating: UL94V-0
- Packaging: Tape and Reel(7 inch)

Agency Approvals

Icon	Description
RoHS	Compliance with (EU)2015/863
HF	Compliance with IEC61249-2-21:2003
Pb	Mean lead free

Schematic & PIN Configuration



Absolute Maximum Ratings

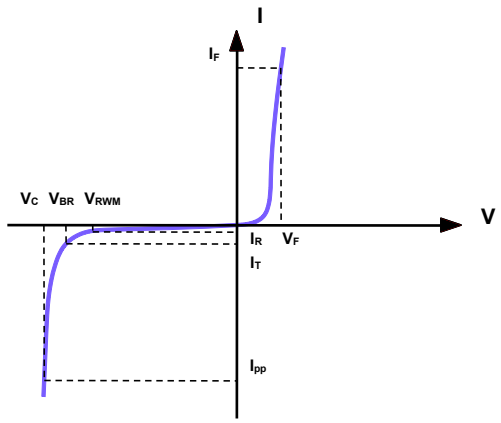
Parameter	Symbol	Value	Unit
Peak Pulse Power(t_p=8/20μs)	P_{PK}	1875	W
Peak Pulse Current(t_p=8/20μs)	I_{PP}	125	A
Lead Soldering Temperature	T_L	260(10seconds)	℃
Junction Temperature	T_J	-55 to +125	℃
Storage Temperature	T_{STG}	-55 to +150	℃

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

Parameter	Symbc	Test Conditic	Min	Typ	Max	Unit
Reverse Stand-Off Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	I_T = 1mA	6			V
Forward Voltage	V_F	I_F=10mA	1.0		1.2	V
Reverse Leakage Current	I_R	V_{RWM} = 5V			1	μA
Clamping Voltage	V_C	I_{PP} = 90A, t_p=8/20μs			15	V
Clamping Voltage	V_C	I_{PP} = 125A, tp=8/20μs			17	V
Junction Capacitance	C_J	V_R = 0V, f = 1MHz,		960		pF

I-V Curve Characteristics

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Reverse Stand-Off Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Curent
I_F	Forward Current
V_F	Forward Voltage @ I_F



Note: 8/20μs pulse waveform.

Characteristics Cureves(TA=25°C unless otherwise Specified)

Fig 1. 8/20μs Pulse Waveform

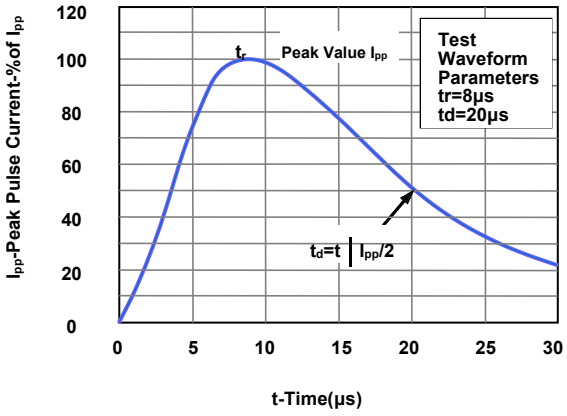


Fig 2. ESD Pulse Waveform (according to IEC61000-4-2)

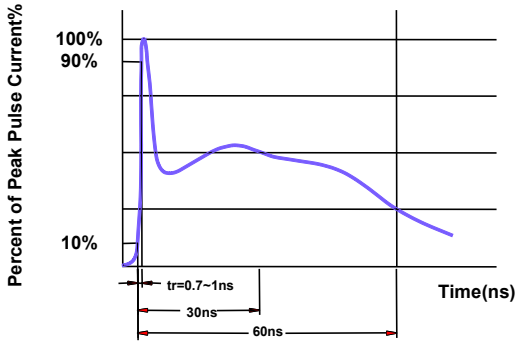


Fig 3. Power Derating Curve

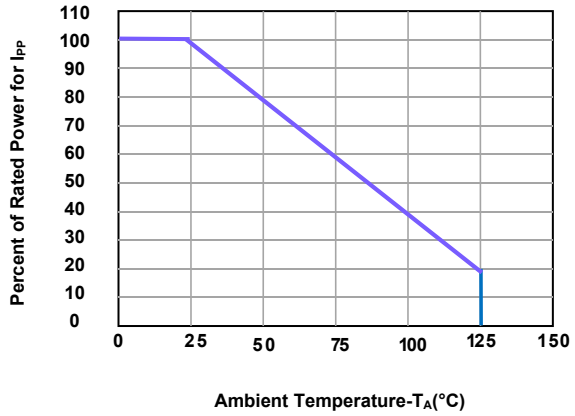


Fig 4.Peak Pulse Power vs. Pulse Time

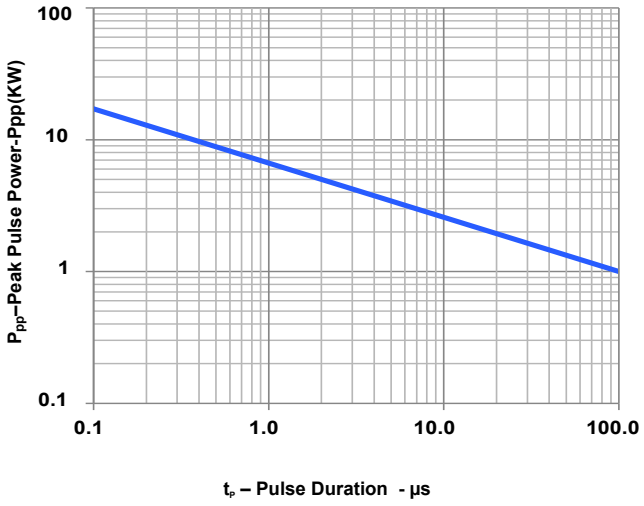


Figure 5.ESD Clamping(+8KV Contact per IEC61000-4-2)

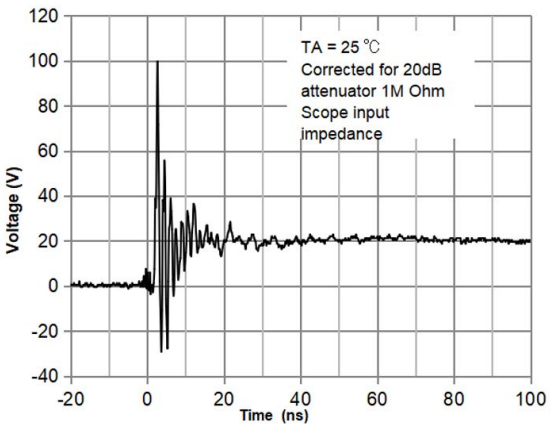
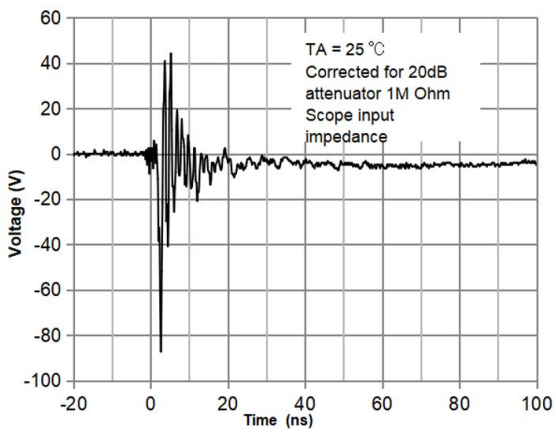
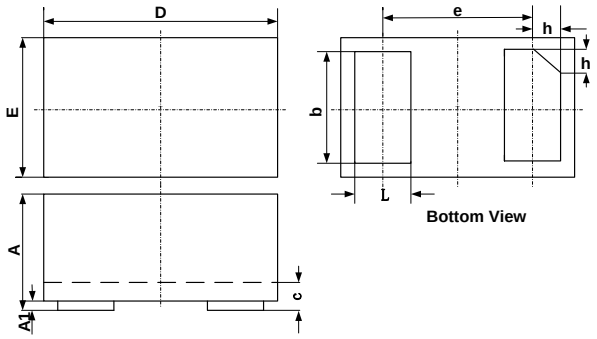


Figure 6.ESD Clamping(-8KV Contact per IEC61000-4-2)

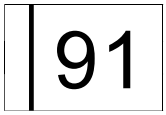


DFN1610-2L Package Outline

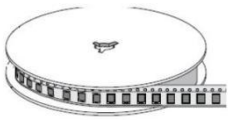
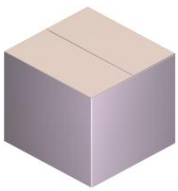
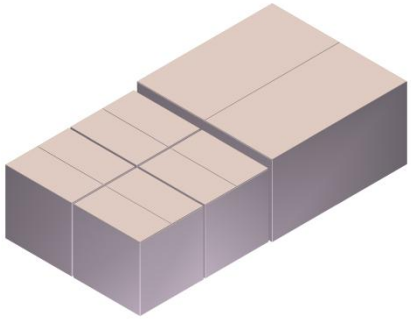


SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.75	0.80	0.85	0.030	0.032	0.034
c	0.10	0.15	0.20	0.004	0.006	0.008
D	1.55	1.60	1.65	0.062	0.064	0.066
e	1.10 BSC			0.044 BSC		
E	0.95	1.00	1.05	0.038	0.040	0.042
L	0.35	0.40	0.45	0.014	0.016	0.018
h	0.15	0.20	0.25	0.006	0.008	0.010

Marking Information



Packaging Information

	Reel	Inner Box	Carton
Size	φ178mm(7 inch)	215×205×205mm	435×435×230mm
Quantity	MPQ/MOQ: 1 reel=3000pcs	1 Inner box=10 reels=30,000pcs	1Carton=4 Inner boxes=120,000pcs
Photos			

Notice: 1、Each reel is placed in an aluminum foil bag and vacuum-packed separately.
2、Above packaging photos make from 3D software for reference only，please refer to actual product as the standard.