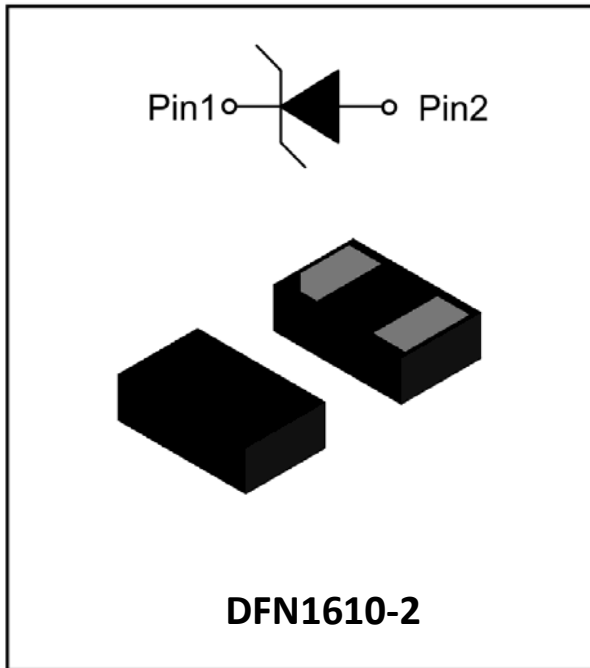


1-Line , Uni-directional , Transient Voltage Suppressor



Features

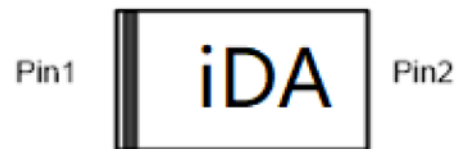
- Ultra small package
- Stand-off voltage: 18V
- Transient protection for each line according to
 - IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
 - IEC61000-4-4 (EFT): 80A (5/50ns)
 - IEC61000-4-5(surge): 50A (8/20 μs)
- Low clamping voltage
- RoHS Compliant

Applications

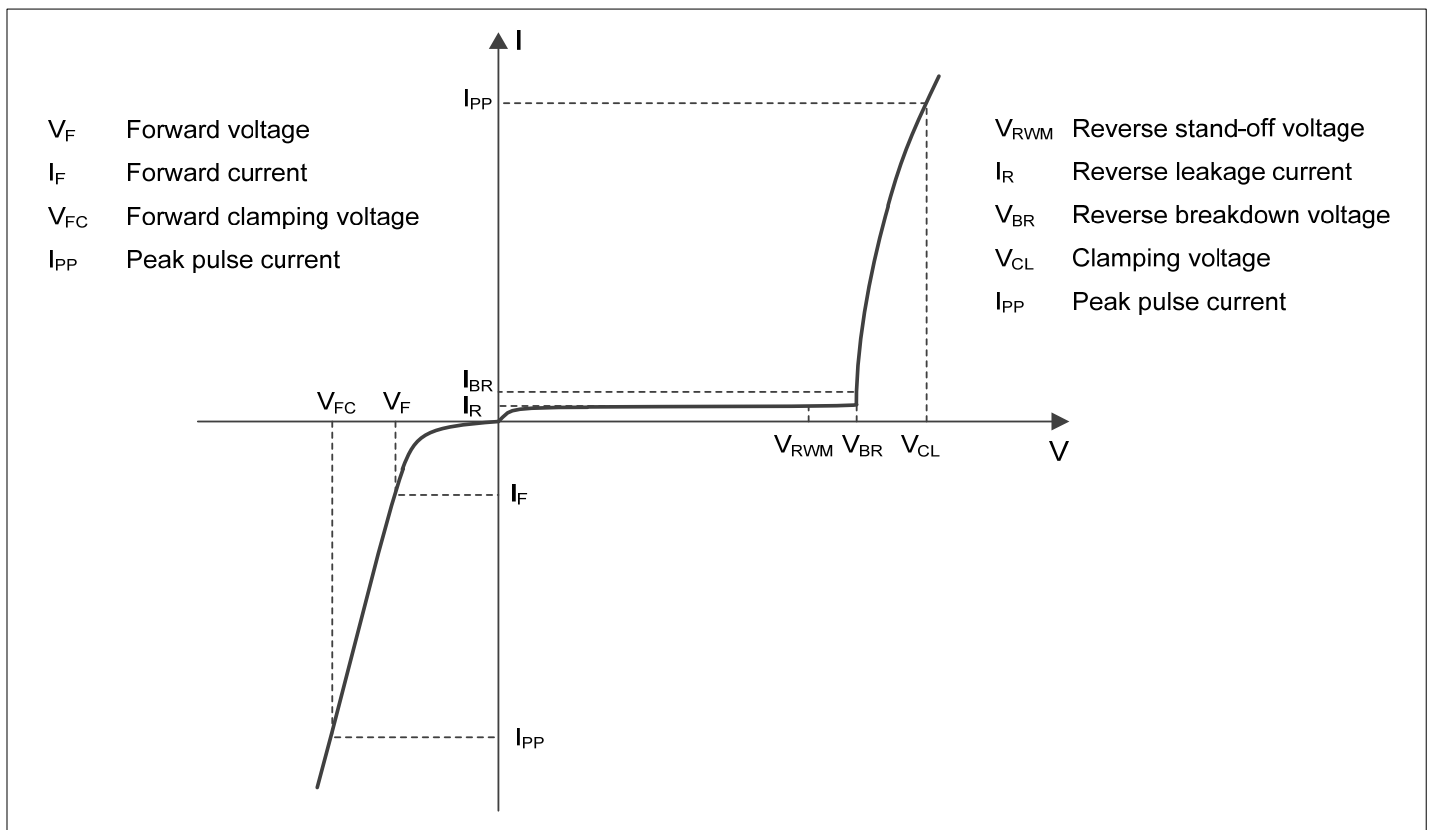
- Power supply protection
- Power management
- Battery Contacts

Mechanical Characteristics

- Package: DFN1610-2L
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Marking Information: See Below



■Definitions of electrical characteristics





ESD18VP6A

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

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	1800	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	50	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	kV
ESD according to IEC61000-4-2 contact discharge		± 30	
Operating Temperature Range	T_J	-55~125	°C
Storage Temperature Range	T_{STG}	-55~150	°C

■Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V				18
Reverse leakage current	I_R	μA	$V_{RWM} = 18V$			1
Reverse breakdown voltage	V_{BR}	V	$I_{BR} = 1mA$	19.2		22.5
Forward voltage	V_F	V	$I_F = 20mA$	0.45		1.25
Clamping voltage ¹⁾	V_{CL}	V	$I_{PP} = 50A, t_p = 8/20\mu s$			35
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$		280	310

Notes:

(1). Non-repetitive current pulse, according to IEC61000-4-5. (8/20 μs current waveform).

■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD18VP6A	F1	Approximate 270	3000	30000	120000	7" reel



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■ Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

Fig.1 8/20 μs waveform per IEC61000-4-5

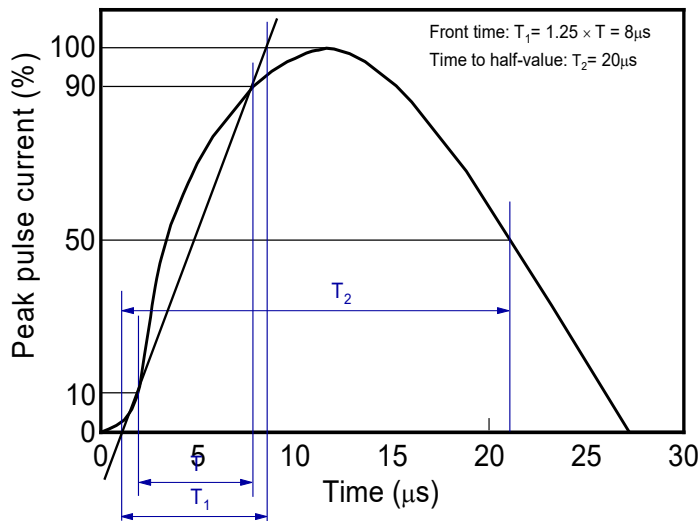


Fig.2 Contact discharge current waveform per IEC61000-4-2

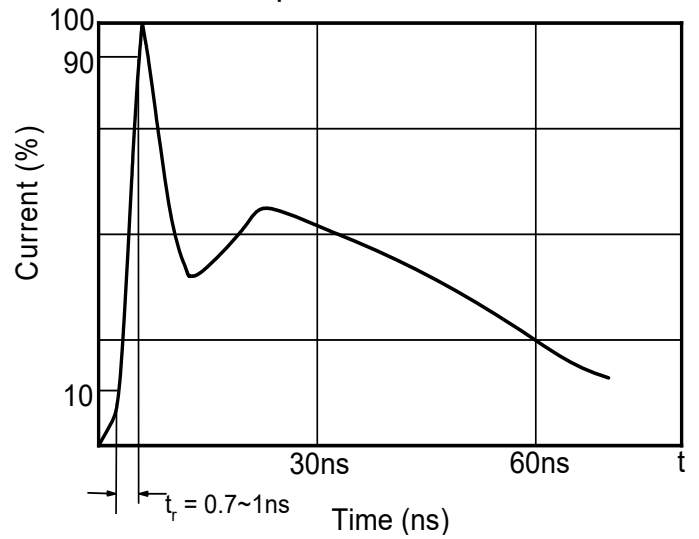


Fig.3 Clamping voltage vs. Peak pulse current

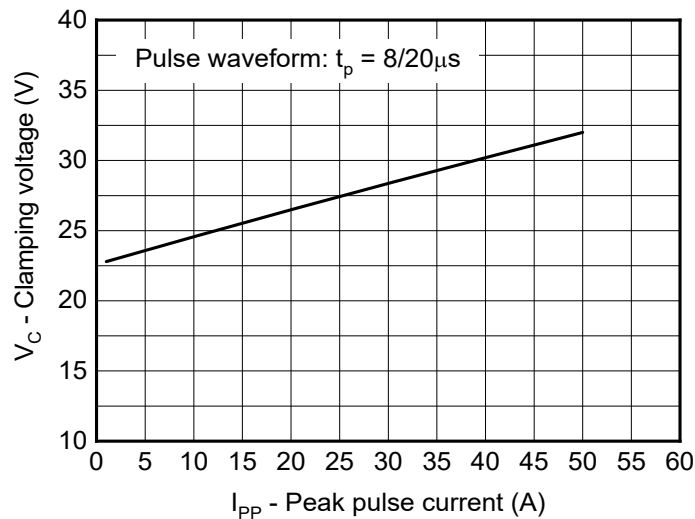


Fig.4 Non-repetitive peak pulse power vs. Pulse time

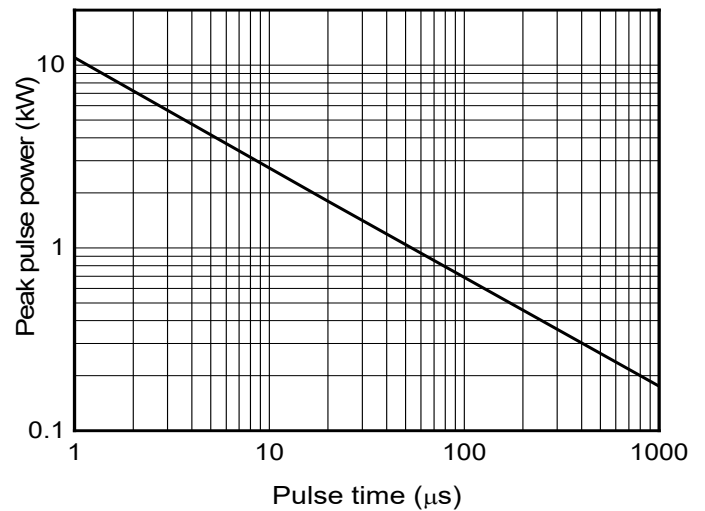
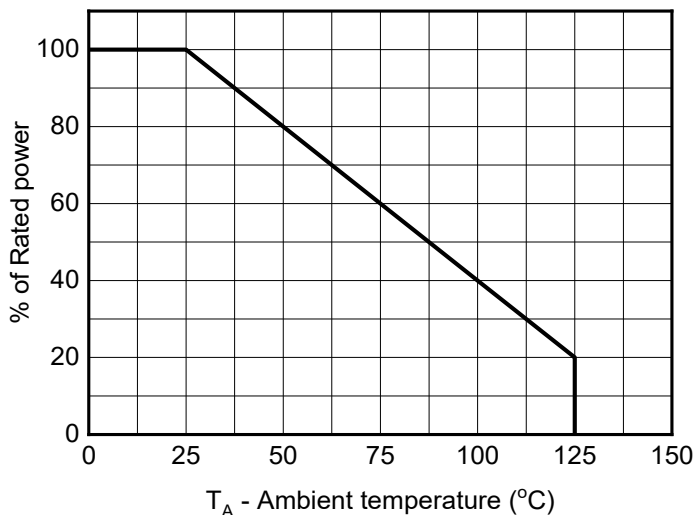


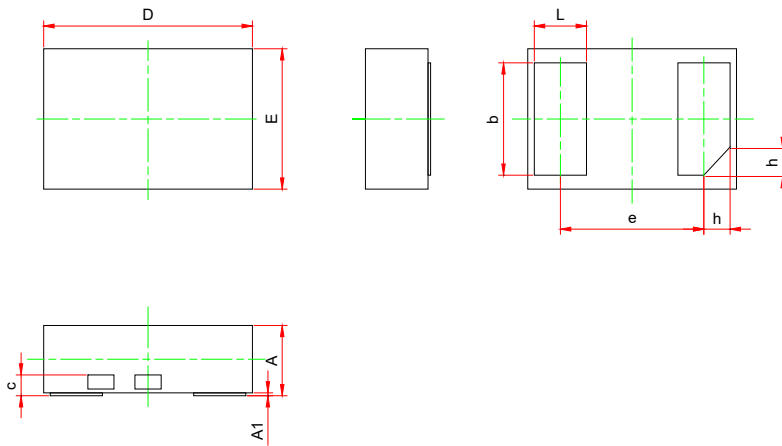
Fig.4 Power derating vs. Ambient temperature





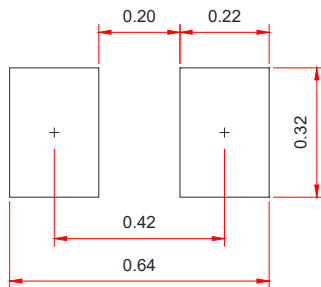
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■Outline Dimensions



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0.45	0.50	0.55
A1	0.00	0.02	0.05
c	0.15 Ref.		
b	0.75	0.80	0.85
L	0.35	0.40	0.45
D	1.55	1.60	1.65
E	0.95	1.00	1.05
e	1.10 BSC		
h	0.20 Ref.		

■Recommend land pattern (Unit:mm)



Notes:

This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met.



ESD18VP6A

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