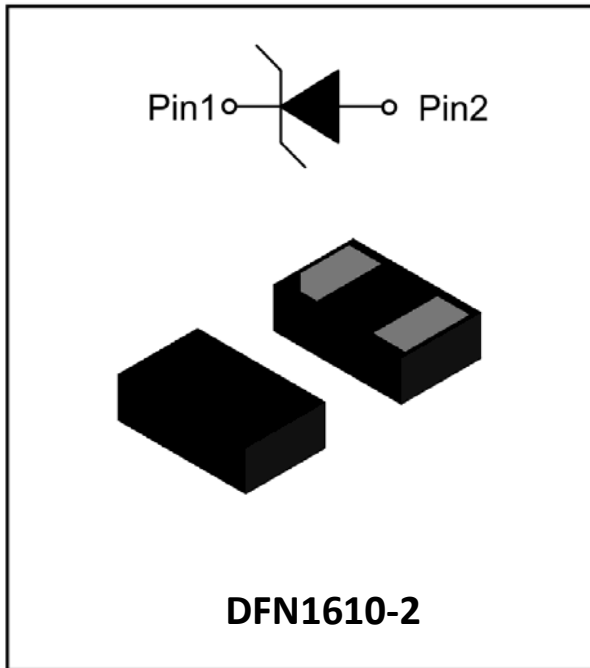


1-Line , Uni-directional , Transient Voltage Suppressor



Features

- Ultra small package
- Stand-off voltage: 24V
- 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): 40A (8/20 μs)
- Low clamping voltage
- RoHS Compliant

Applications

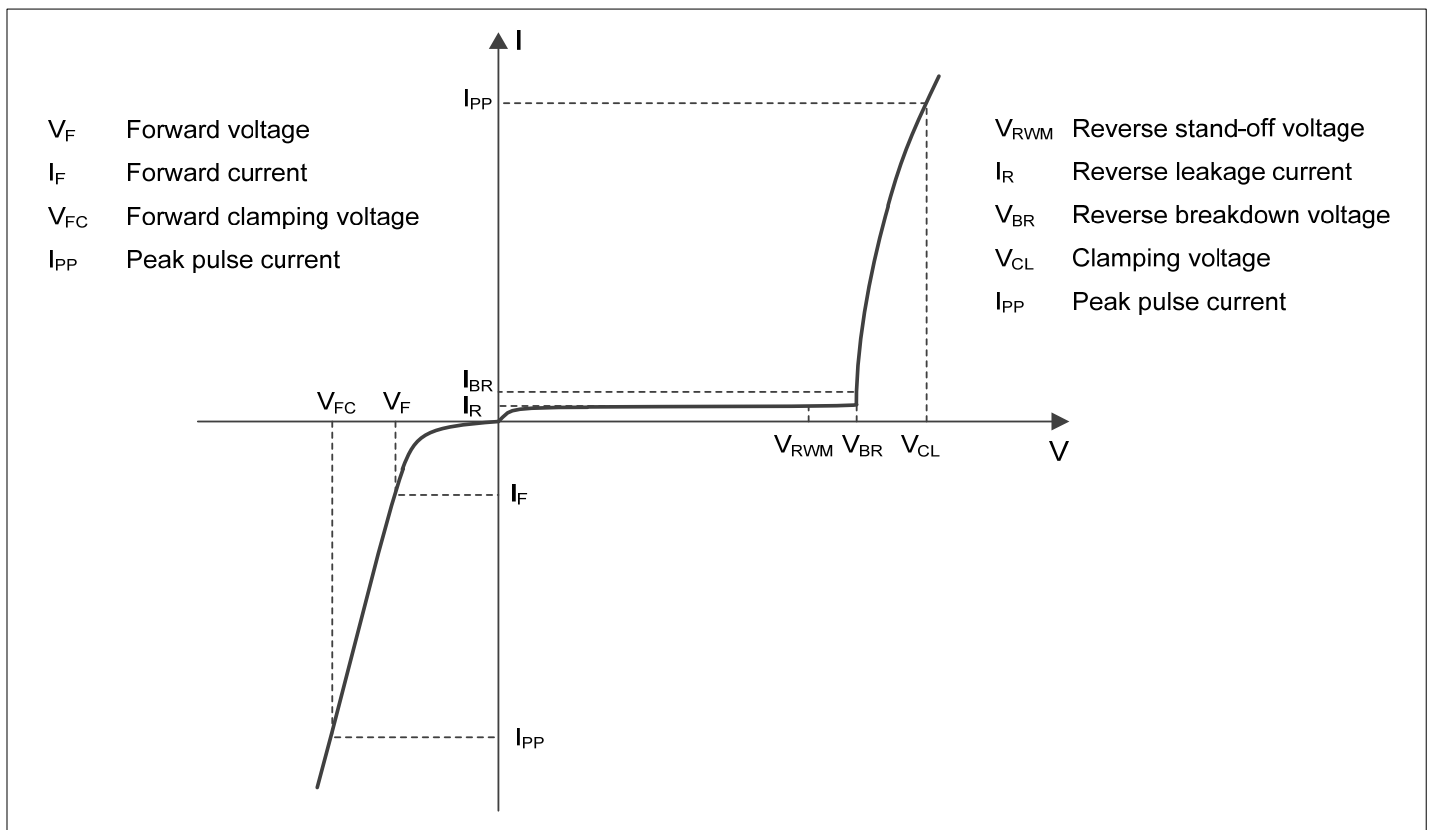
- Power supply protection
- Power management
- Battery Contacts

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





ESD24VP6A

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

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 8/20\mu s$)	P_{pk}	1720	W
Peak pulse current ($t_p = 8/20\mu s$)	I_{PP}	40	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				24
Reverse leakage current	I_R	μA	$V_{RWM} = 24V$			1
Reverse breakdown voltage	V_{BR}	V	$I_{BR} = 1mA$	26.4		29
Forward voltage	V_F	V	$I_F = 20mA$	0.45		1.25
Clamping voltage ¹⁾	V_{CL}	V	$I_{PP} = 40A, t_p = 8/20\mu s$			43
Junction capacitance	C_J	pF	$V_R = 0V, f = 1MHz$		210	250

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
ESD24VP6A	F1	Approximate 270	3000	30000	120000	7" reel



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

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

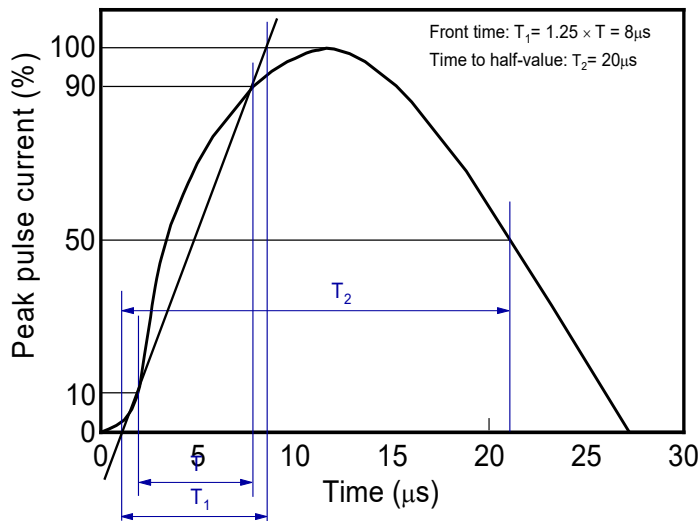


Fig.2 Contact discharge current waveform per IEC61000-4-2

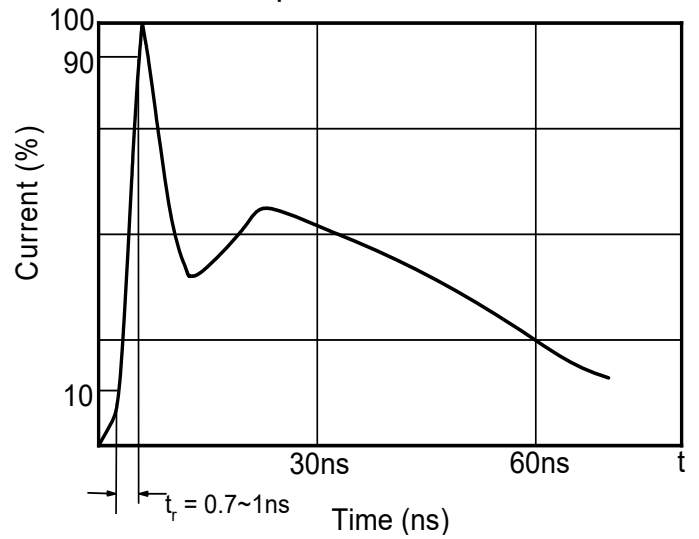


Fig.3 Clamping voltage vs. Peak pulse current

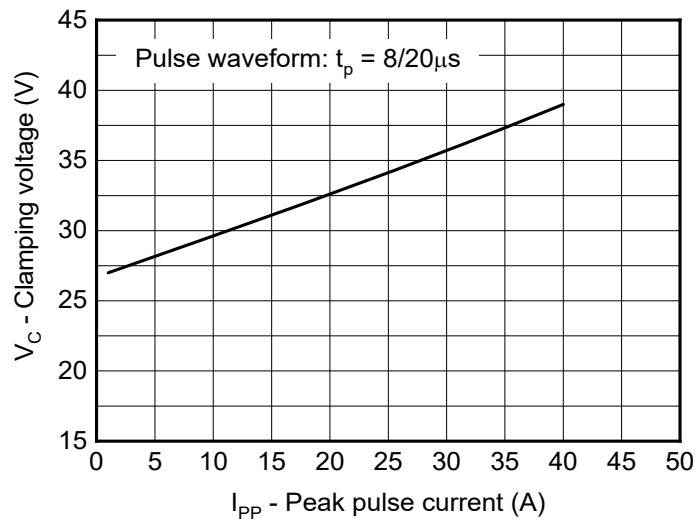


Fig.4 Non-repetitive peak pulse power vs. Pulse time

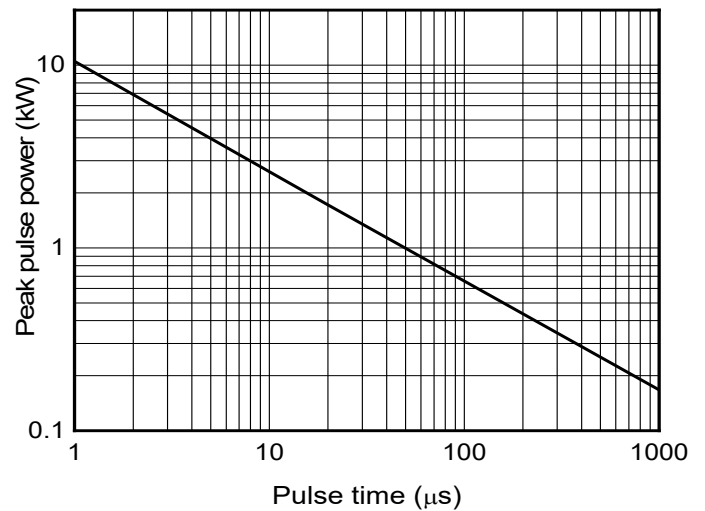
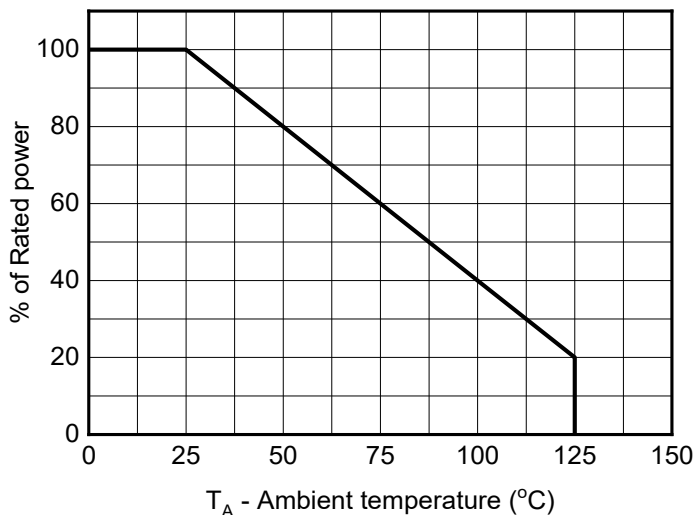


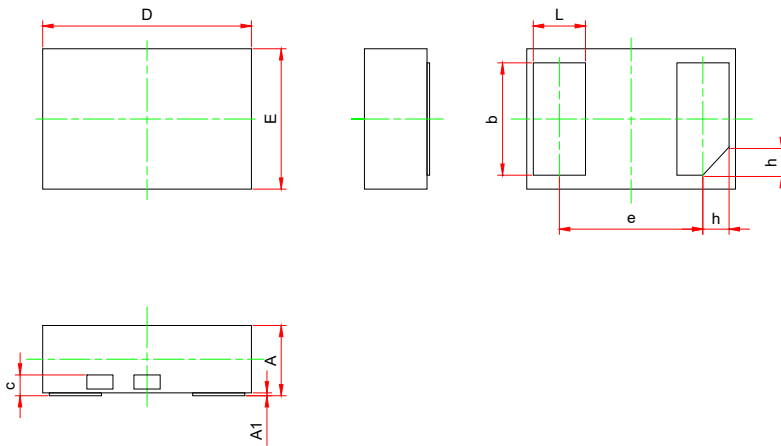
Fig.4 Power derating vs. Ambient temperature





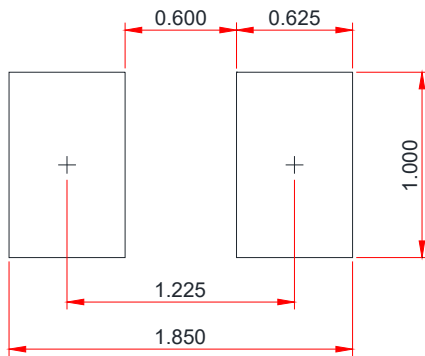
ESD24VP6A

■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.



Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.