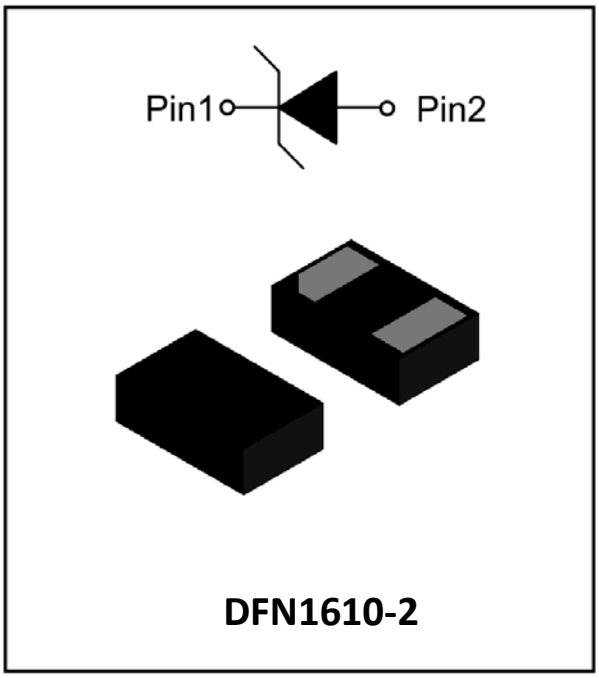
1-Line , Uni-directional , Transient Voltage Suppressor



Features

- Ultra small package
- Stand-off voltage: 7V ~15V
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-4 (EFT): 80A (5/50ns)
  IEC61000-4-5(surge)
- Low clamping voltage
- RoHS Compliant

Applications

- Power supply protection
- Power management
- Battery Contacts

Mechanical Characteristics

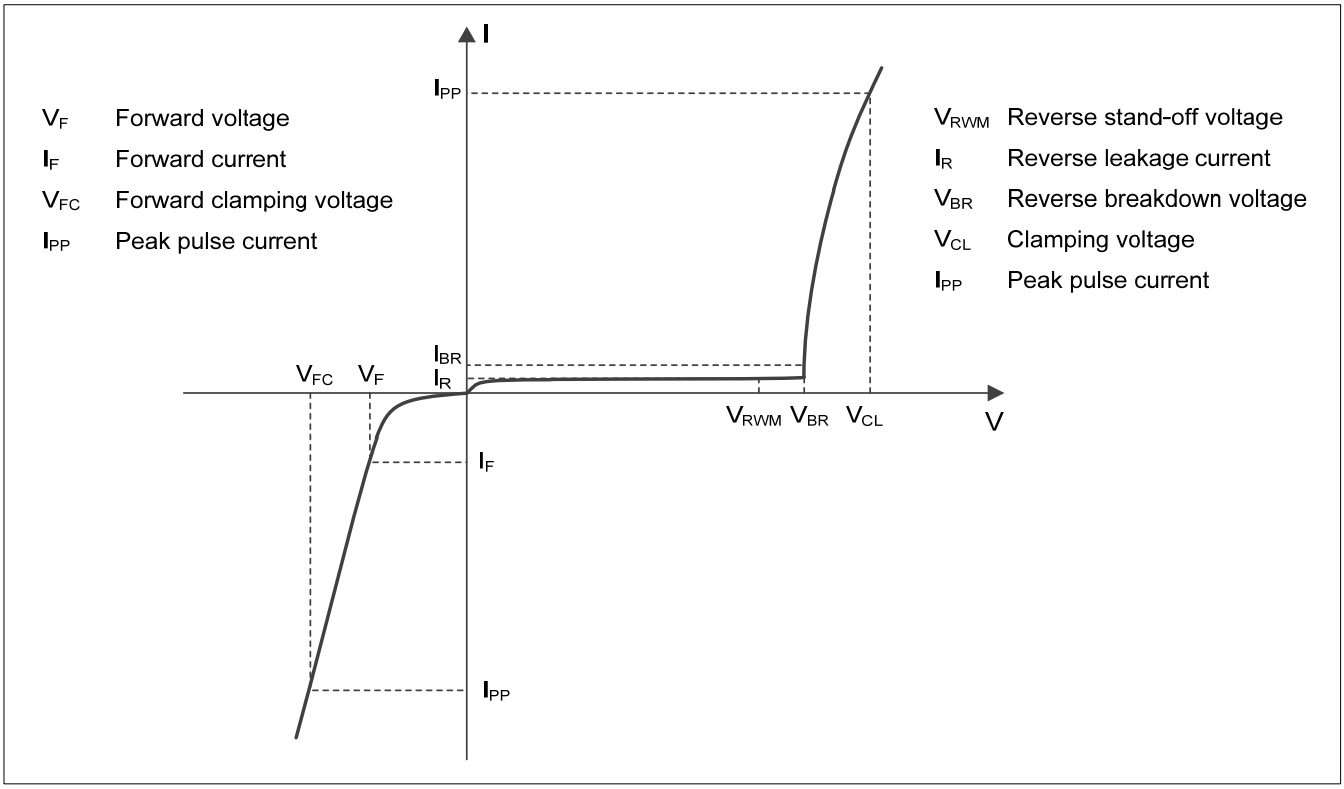
- Package: DFN1610-2L
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Marking Information: See Below



DA= Series code
X = Device code

Device	Device code
ESD7V0P6A	7DA
ESD10VP6A	aDA
ESD12VP6A	cDA
ESD15VP6A	fDA

■Definitions of electrical characteristics



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

PARAMETER	SYMBOL		VALUE	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}		1800	W
ESD IEC61000-4-2(ESD)Air	V_{ESD}		±30	KV
ESD IEC61000-4-2(ESD)Contact			±30	KV
Operating Temperature Range	T_J		-55~125	℃
Storage Temperature Range	T_{STG}		-55~150	℃

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

Part Number	Reverse Working Voltage V_{RWM}(V)	Breakdown Voltage V_{BR}(V)@I_T=1mA			Reverse Leakage Current I_R(μA)@V_{RWM}		Forward Voltage V_F(V)@I_F=20mA		Junction Capacitance Cj(pF)@ VR=0V,f=1MHz	
	Max	Min	Typ	Max	Typ	Max	Min	Max	Typ	Max
ESD7V0P6A	7	8	9	10	-	1	0.45	1.25	700	900
ESD10VP6A	10	11	11.3	12.3	-	1	0.45	1.25	545	650
ESD12VP6A	12	13.2	13.7	14.6	-	1	0.45	1.25	425	510
ESD15VP6A	15	16.2	16.5	18	-	1	0.45	1.25	325	380

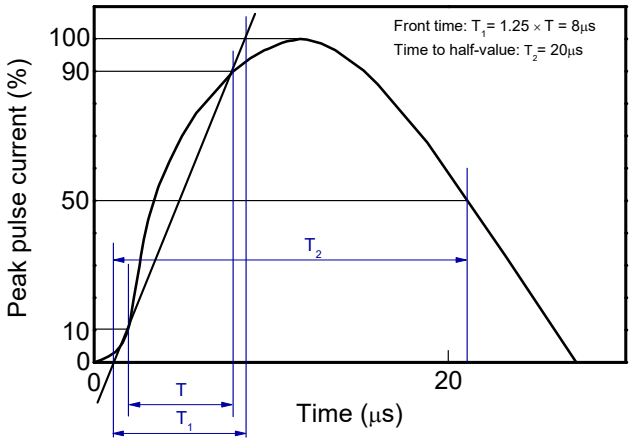
Part Number	Rated peak pulse current IPP （A） 1)	Clamping voltage VCL(V) @ IPP（A） 1)	
	Max	Typ	Max
ESD7V0P6A	100	14	17
ESD10VP6A	86	17	20
ESD12VP6A	75	19	22
ESD15VP6A	60	27	30

Notes:

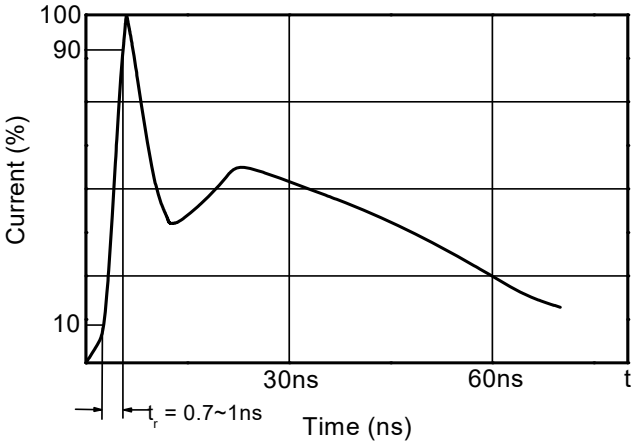
(1). Non-repetitive current pulse, according to IEC61000-4-5. (8/20μs current waveform).

■Typical Performance Characteristics (T_a=25℃ unless otherwise Specified)

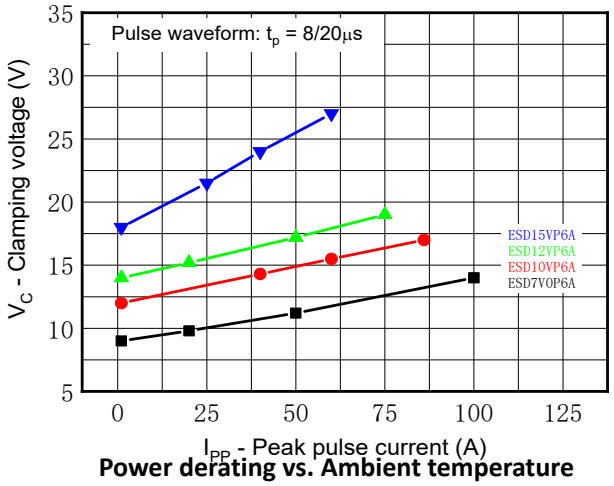
8/20μs waveform per IEC61000-4-5



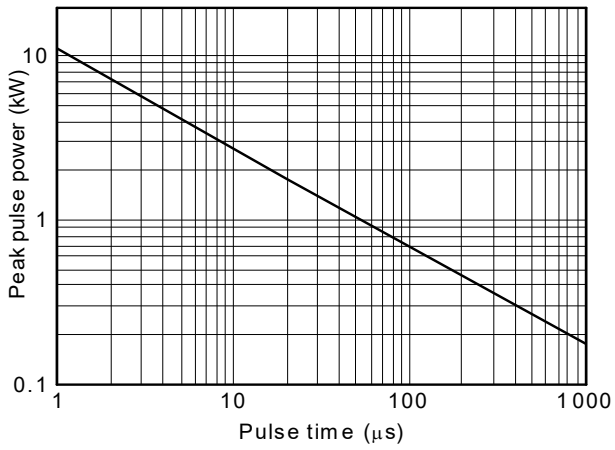
Contact discharge current waveform per IEC61000-4-2



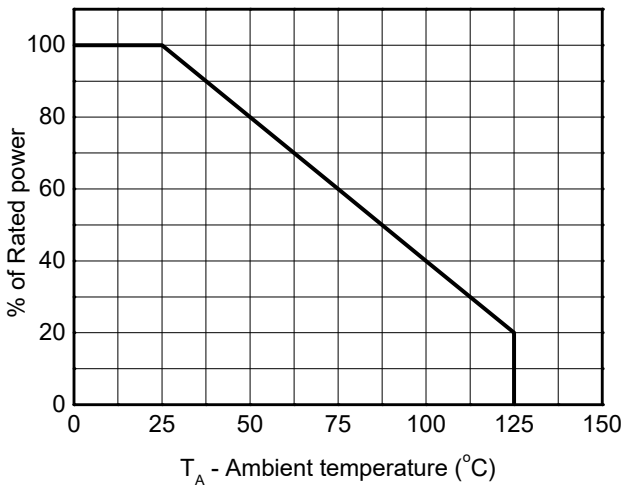
Clamping voltage vs. Peak pulse current



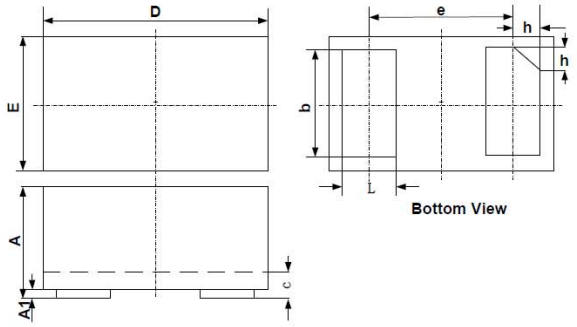
Non-repetitive peak pulse power vs. Pulse time



Power derating vs. Ambient temperature

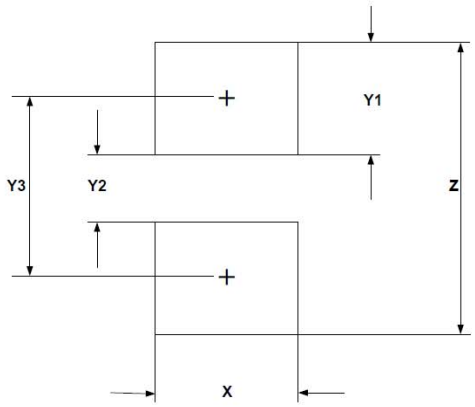


■Outline Dimensions



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

■Recommend land pattern (Unit:mm)



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	1.00	0.040
Y1	0.62	0.025
Y2	0.60	0.024
Y3	1.22	0.049
Z	1.85	0.074

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

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