

Features

- 4500 W peak pulse power (tp= 8/20µs)
- Ultra small package: 1.6x1.0x0.5mm
- Ultra low leakage: nA level
- Low clamping voltage
- 2-pin leadless package
- RoHS compliant



IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact)
- IEC 61000-4-5(Lightning) 120A(8/20us)

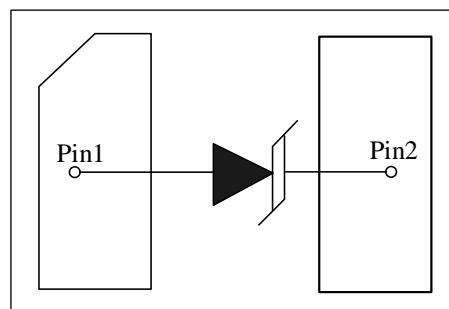
Applications

- Mobile Phones
- Battery Protection
- Power Line Protection
- Vbat pin for Mobile Devices
- Hand Held Portable Applications

Mechanical Characteristics

- Package: DFN1610-2
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel
- RoHS/WEEE Compliant
- MSD Level: 2

Schematic and PIN Configuration



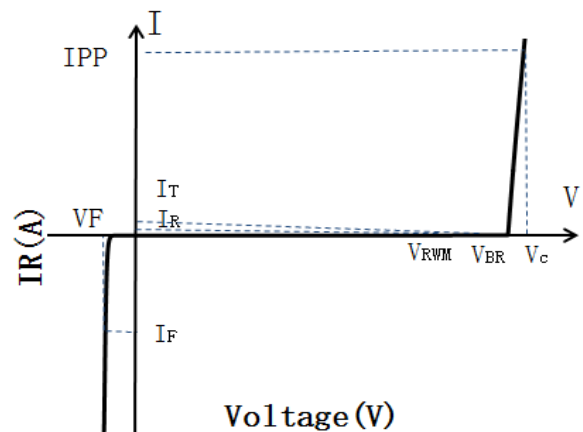


Absolute Maximum Ratings (TA=25°C unless otherwise specified)

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	4500	W
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	130	A
ESD per IEC 61000-4-2(Air)	V_{ESD}	± 30	kV
ESD per IEC 61000-4-2(contact)		± 30	
Operating Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Portion Electronics Parameter

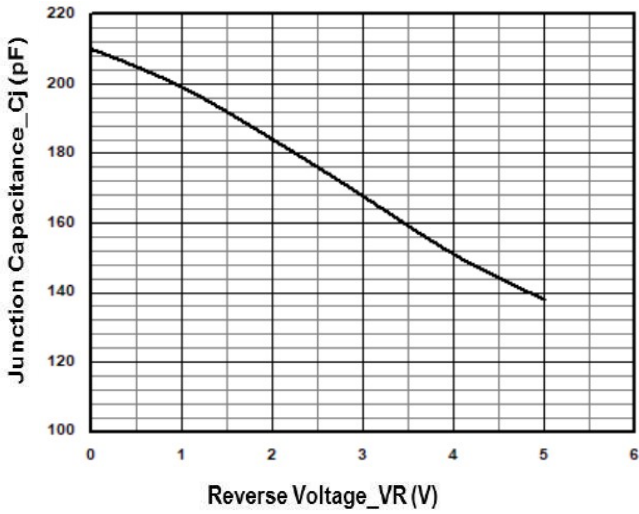
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_C



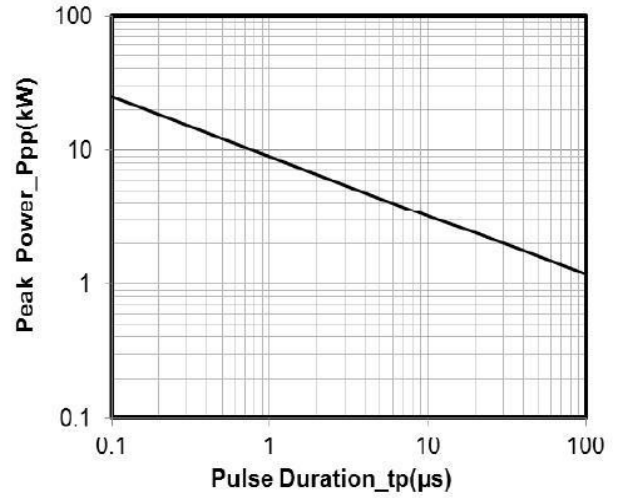
Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				24	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	25			V
Reverse Leakage Current	I_R	$V_{RWM} = 24V$			0.5	μA
Clamping Voltage	V_C	$I_{PP} = 1A, t_p = 8/20\mu s$			26	V
		$I_{PP} = 130A, t_p = 8/20\mu s$			32	V
Junction Capacitance	C_j	$V_R = 0V, f = 1MHz$			250	pF

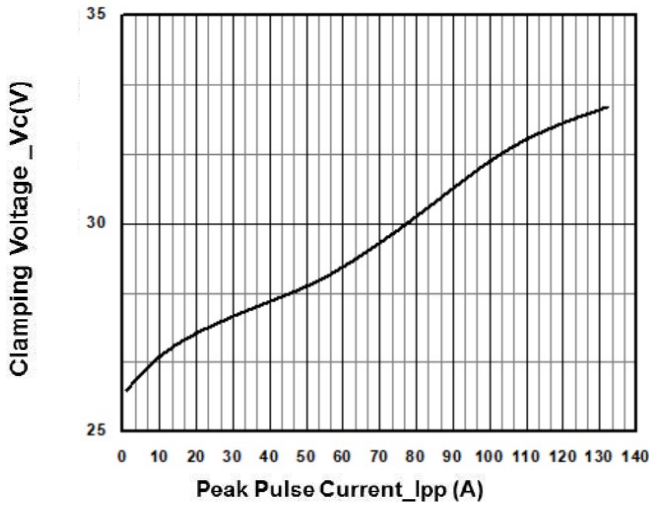
Typical Characteristics (TA=25°C unless otherwise Specified)



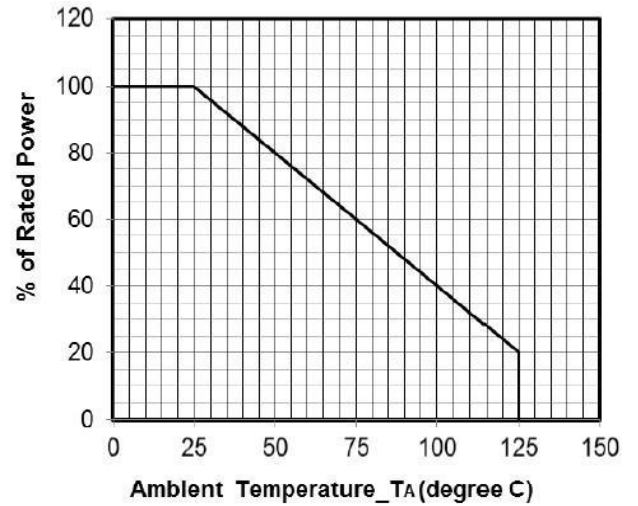
Junction Capacitance vs. Reverse Voltage



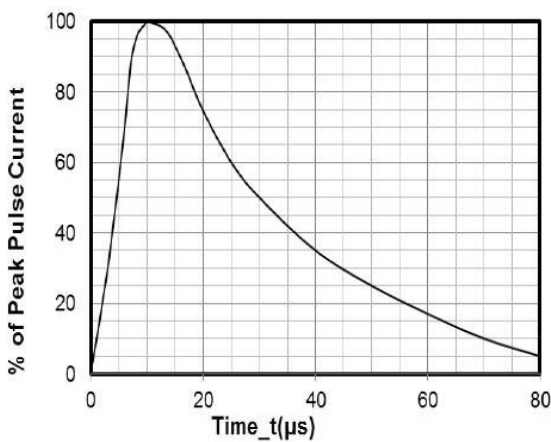
Peak Pulse Power vs. Pulse Time



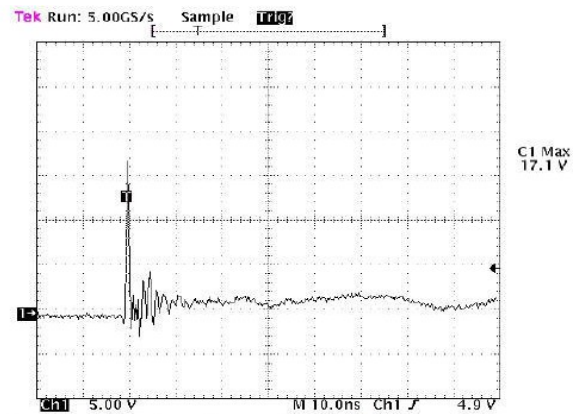
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve

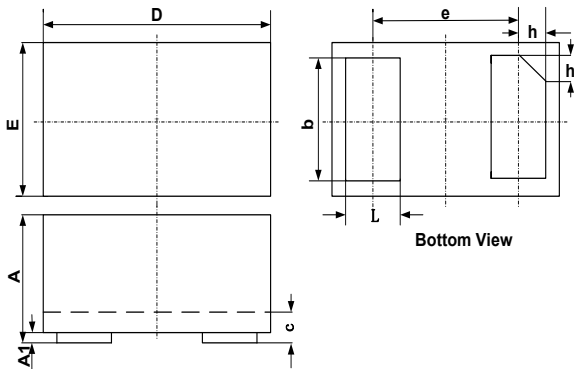


8 X 20μs Pulse Waveform



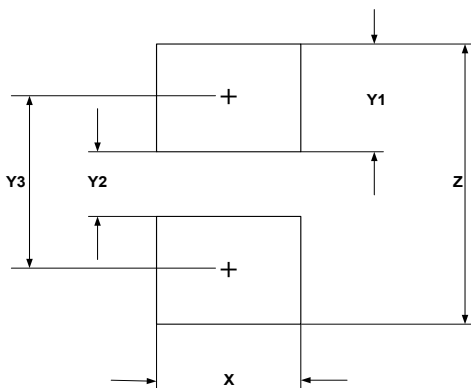
Note: Data is taken with a 10x attenuator
ESD Clamping Voltage
+8 kV Contact per IEC61000-4-2

DFN1610-2 Package Outline Drawing



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

Suggested Land Pattern



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

Order Information

Order code	Package	Packaging	Reel Size
MDFN1610A241SS	DFN1610-2	3000/Tape & Reel	7 inch