

### Features

- Uni-Directional ESD Protection of One Line
- High Peak Pulse Current Capability
- Ultra Low Clamping Voltage
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

### Maximum Ratings

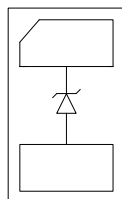
- Operating Junction Temperature Range: -55°C to +125°C
- Storage Temperature Range: -55°C to +150°C

MCC Part Number	Device Marking
ESD0571P6	91
ESD0771P6	76
ESD1271P6	72
ESD2471P6	74

IEC61000-4-2(ESD)	Air Contact	±30KV ±30KV
Peak Pulse Power (8/20µs)	P <sub>PK</sub>	1875W

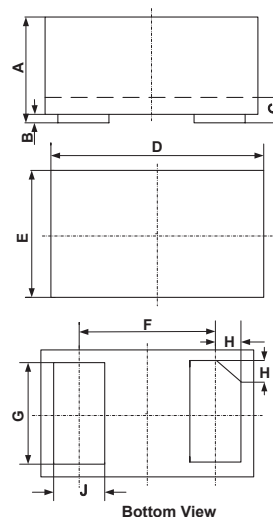
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

### Circuit and Pin Schematic



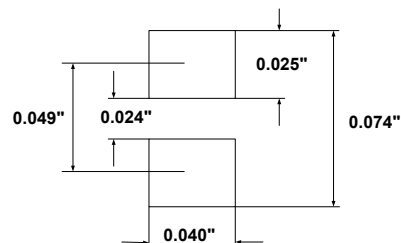
## ESD Protection Device

### DFN1610-2



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.018	0.022	0.45	0.55	
B	0.000	0.002	0.00	0.05	
C	0.004	0.008	0.10	0.20	
D	0.062	0.066	1.55	1.65	
E	0.038	0.042	0.95	1.05	
F	0.044		1.10		TYP.
G	0.030	0.034	0.75	0.85	
H	0.006	0.010	0.15	0.25	
J	0.014	0.018	0.35	0.45	

### SUGGESTED SOLDER PAD LAYOUT



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

ESD0571P6

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	$V_{RWM}$				5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	6			V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V$			1	$\mu A$
Forward Voltage	$V_F$	$I_F=10mA$			1.2	V
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			125	A
Clamping Voltage	$V_C$	$I_{PP}=10A, t_p=8/20\mu s$			9	V
Clamping Voltage	$V_C$	$I_{PP}=125A, t_p=8/20\mu s$			15	V
Junction Capacitance	$C_J$	$V_R=0V, f=1MHz$			650	pF

ESD0771P6

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	$V_{RWM}$				7	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	7.5			V
Reverse Leakage Current	$I_R$	$V_{RWM}=7V$			0.5	$\mu A$
Forward Voltage	$V_F$	$I_F=10mA$			1.2	V
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			115	A
Clamping Voltage	$V_C$	$I_{PP}=10A, t_p=8/20\mu s$			12	V
Clamping Voltage	$V_C$	$I_{PP}=115A, t_p=8/20\mu s$			16.5	V
Junction Capacitance	$C_J$	$V_R=0V, f=1MHz$			550	pF

**Electrical Characteristics @ 25°C (Unless Otherwise Specified)**
**ESD1271P6**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	$V_{RWM}$				12	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	12.6			V
Reverse Leakage Current	$I_R$	$V_{RWM}=12V$			0.1	$\mu A$
Forward Voltage	$V_F$	$I_F=10mA$			1.2	V
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			75	A
Clamping Voltage	$V_C$	$I_{PP}=10A, t_p=8/20\mu s$			18	V
Clamping Voltage	$V_C$	$I_{PP}=75A, t_p=8/20\mu s$			25	V
Junction Capacitance	$C_J$	$V_R=0V, f=1MHz$			500	pF

**ESD2471P6**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	$V_{RWM}$				24	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	26.7			V
Reverse Leakage Current	$I_R$	$V_{RWM}=24V$			0.1	$\mu A$
Forward Voltage	$V_F$	$I_F=10mA$			1.2	V
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			35	A
Clamping Voltage	$V_C$	$I_{PP}=10A, t_p=8/20\mu s$			42	V
Clamping Voltage	$V_C$	$I_{PP}=35A, t_p=8/20\mu s$			53.5	V
Junction Capacitance	$C_J$	$V_R=0V, f=1MHz$			200	pF

## Curve Characteristics

Fig. 1 - 8 X 20 $\mu$ s Pulse Waveform

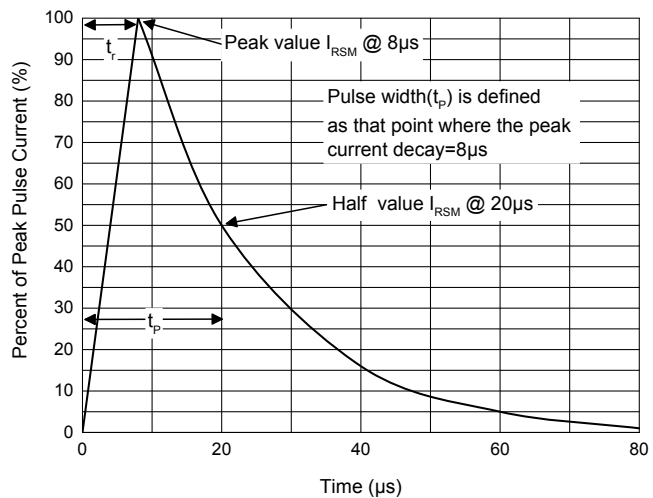


Fig. 2 - Non-Repetitive Peak Pulse Power

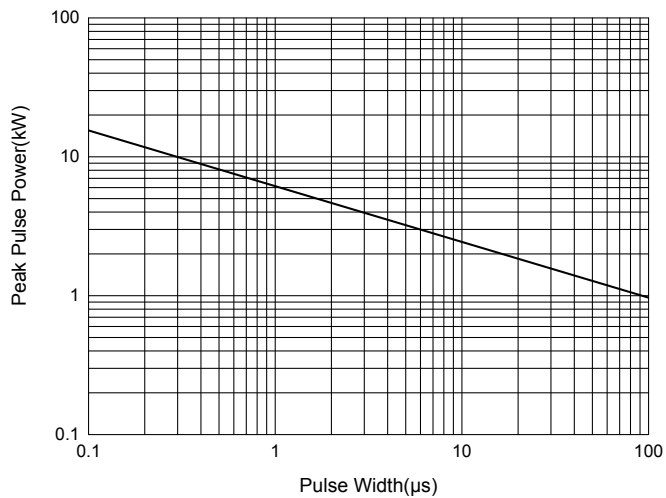
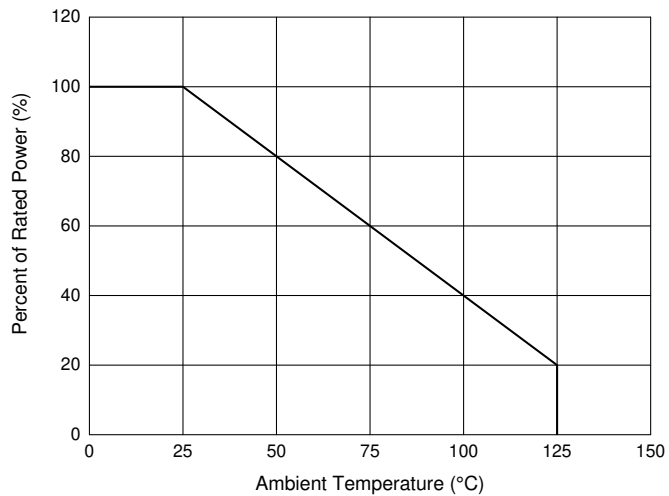


Fig. 3 - Pulse Derating Curve



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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