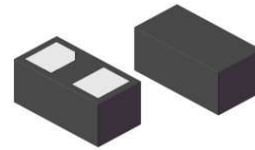


1-Line Bi-directional ESD Protection Diode

RoHS Device

Halogen Free



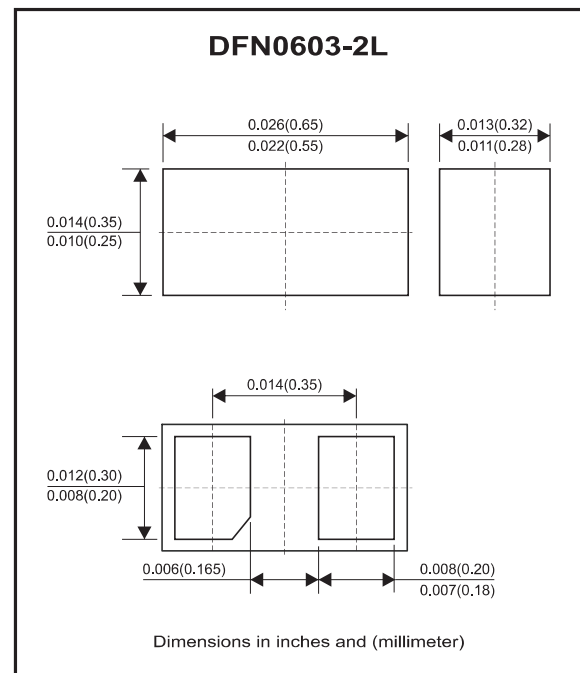
Features

- Bi-directional ESD protection.
- IEC 61000-4-5 (Lightning) ; $I_{pp}=5A$
- IEC 61000-4-2 (ESD) ; $\pm 20KV$ (contact)
- Low clamping voltage.
- Low leakage current.
- Ultra small SMD package.

Mechanical data

- Case: DFN0603-2L package, molded plastic.
- Lead finish: Matte tin.
- Mounting position: Any.

Circuit Diagram

Maximum Rating (at $T_A=25^\circ C$ unless otherwise noted)

Parameter	Conditions	Symbol	Value	Unit
Peak pulse power	$T_P = 8/20\mu s$	P_{PP}	40	W
Peak pulse current	$T_P = 8/20\mu s$	I_{PP}	5	A
ESD capability	IEC 61000-4-2(air)	ESD	± 25	kV
	IEC 61000-4-2(contact)	ESD	± 20	
Operating temperature range		T_J	$-55 \sim +125$	$^\circ C$
Storage temperature range		T_{STG}	$-55 \sim +150$	$^\circ C$

Electrical Characteristics (at $T_A=25^\circ C$ unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Working peak reverse voltage		V_{RWM}			3.3	V
Breakdown voltage	$I_T = 1mA$	V_{BR}	3.5			V
Reverse leakage current	$V_{RWM} = 3.3V$	I_R			0.2	μA
Clamping voltage	$I_{PP} = 1A, T_P = 8/20\mu s$	V_C			6	V
	$I_{PP} = 5A, T_P = 8/20\mu s$	V_C			8	V
Junction capacitance	$V_R = 0V, f = 1MHz$	C_J		5		pF

Company reserves the right to improve product design , functions and reliability without notice.

Rev:1.0

Rating and Characteristic Curves

Fig.1 - Junction Capacitance vs. Reverse Voltage

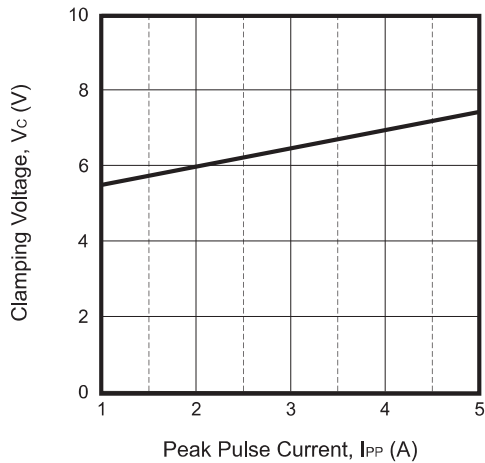


Fig.2 - Peak Pulse Power vs. Pulse Time

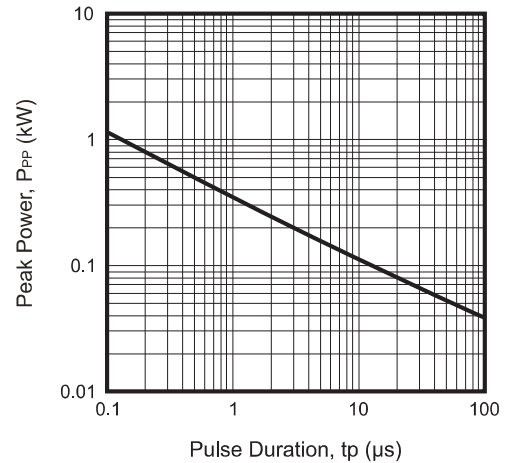


Fig.3 - Clamping Voltage vs. Peak Pulse Current

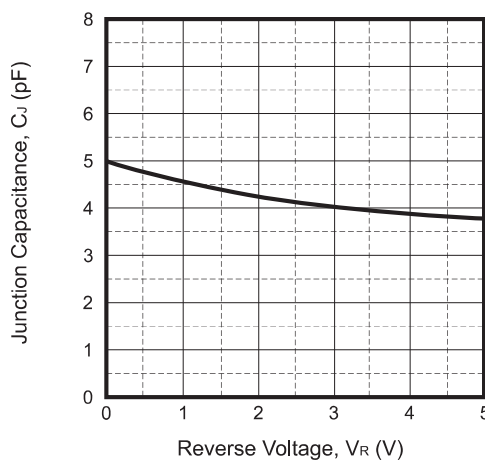


Fig.4 - Power Derating Curve

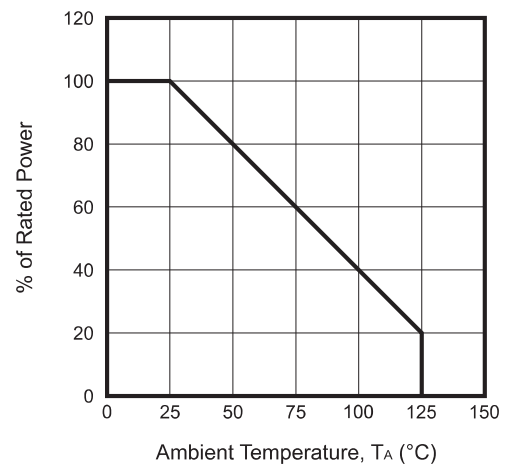
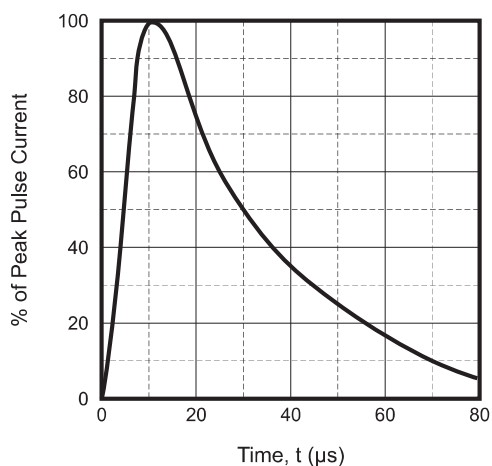
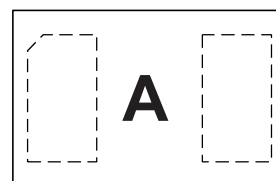


Fig.5 - 8x20μs Pulse Waveform



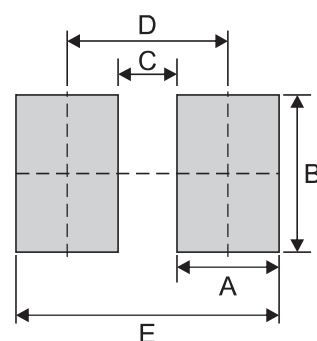
Marking Code

Part Number	Marking Code
LE3311P0	A



Suggested P.C.B. PAD Layout

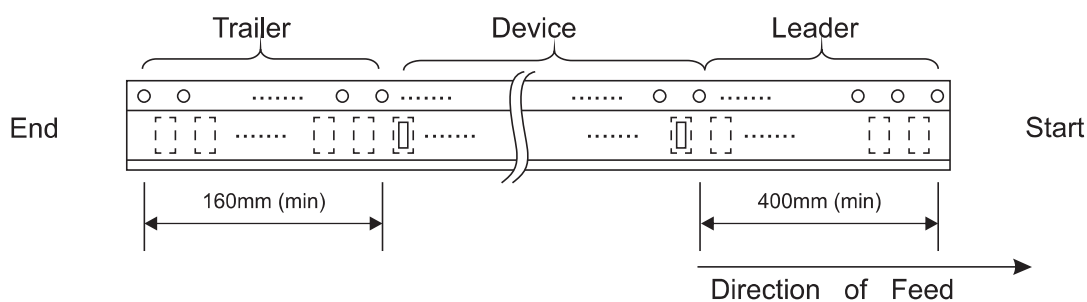
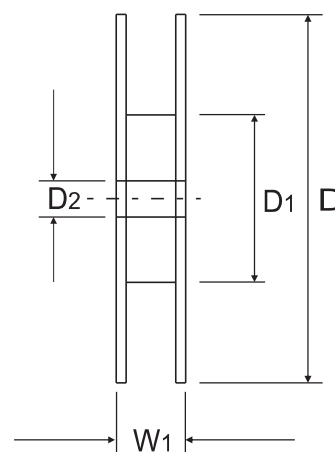
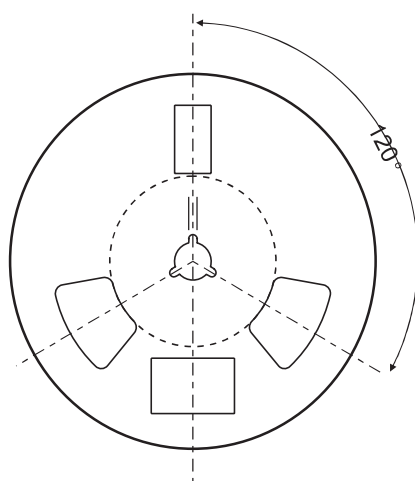
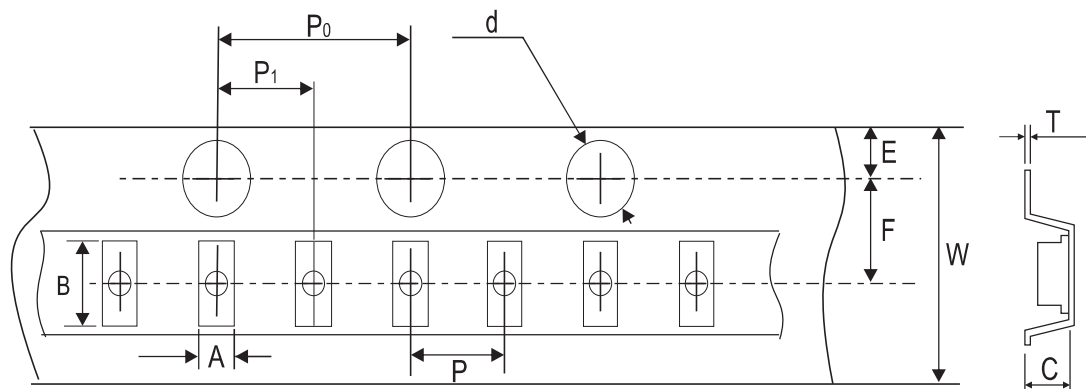
SIZE	DFN0603-2L	
	(mm)	(inch)
A	0.26	0.010
B	0.40	0.016
C	0.15	0.006
D	0.41	0.016
E	0.67	0.026



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DFN0603-2L	10,000	7

Reel Taping Specification



	SYMBOL	A	B	C	d	D	D1	D2
DFN0603-2L	(mm)	0.41 ± 0.03	0.71 ± 0.03	0.38 ± 0.03	$1.50 + 0.10$ $- 0.00$	178.00 ± 1.00	60.00 ± 0.50	13.50 ± 0.20
	(inch)	0.016 ± 0.001	0.028 ± 0.001	0.015 ± 0.001	$0.059 + 0.004$ $- 0.000$	7.008 ± 0.039	2.362 ± 0.020	0.531 ± 0.008

	SYMBOL	E	F	P	P0	P1	T	W	W1
DFN0603-2L	(mm)	1.75 ± 0.10	3.50 ± 0.05	2.00 ± 0.05	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.02	$8.00 + 0.30$ $- 0.10$	$12.00 + 0.50$ $- 0.00$
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.079 ± 0.002	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.001	$0.315 + 0.012$ $- 0.004$	$0.472 + 0.020$ $- 0.000$