

### FEATURES:

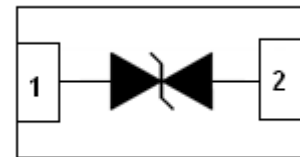
- ✧ Protects one bi-directional I/O line
- ✧ Low clamping voltage
- ✧ Low operating voltage: 7.0V
- ✧ Ultra-low capacitance
- ✧ ROHS compliant
- ✧ Compliant to Halogen-free
- ✧ Suffix "-Q1" for AEC-Q101



DFN-2L(0402)

### MAIN APPLICATIONS

- ✧ Cellular handsets
- ✧ USB V<sub>BUS</sub> and CC line protection
- ✧ Microphone line protection
- ✧ GPIO protection



PIN Configuration

### PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) ±20kV (air), ±20kV (contact)
- ✧ IEC61000-4-5 (Lightning) 6A (8/20μs)

### MECHANICAL CHARACTERISTICS

- ✧ Package DFN-2L(0402)
- ✧ Molding Compound Flammability Rating : UL 94V-O
- ✧ Lead Finish : Lead Free
- ✧ Marking Code: D8 or 7A

### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C, RH=45%-75%, unless otherwise noted)

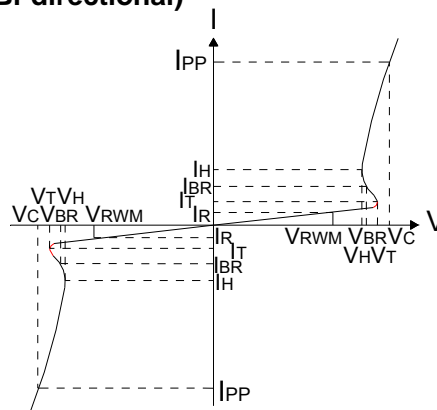
Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20μs waveform	P <sub>PP</sub>	80	W
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	+/- 20	kV
ESD per IEC 61000-4-2 (Contact)		+/- 20	
Lead soldering temperature	T <sub>L</sub>	260 (10 sec.)	°C
Operating junction temperature range	T <sub>J</sub>	-55 to +125	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°C

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

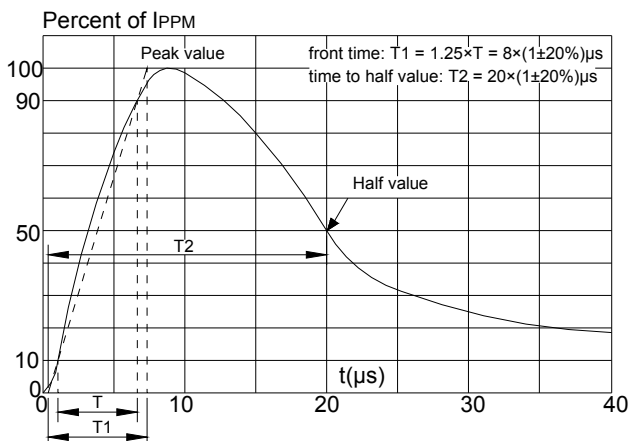
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	V <sub>R</sub>				7.0	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> = 1mA	7.2			V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> = 7V			0.2	μA
Peak Pulse Current	I <sub>pp</sub>	t <sub>p</sub> = 8/20μs			6	A
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 1A, t <sub>p</sub> = 8/20μs			11	V
		I <sub>PP</sub> = 6A, t <sub>p</sub> = 8/20μs			14	V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> = 0V, f = 1MHz		15		pF

### RATINGS AND V-I CHARACTERISTICS CURVES (T<sub>A</sub>=25°C, unless otherwise noted)

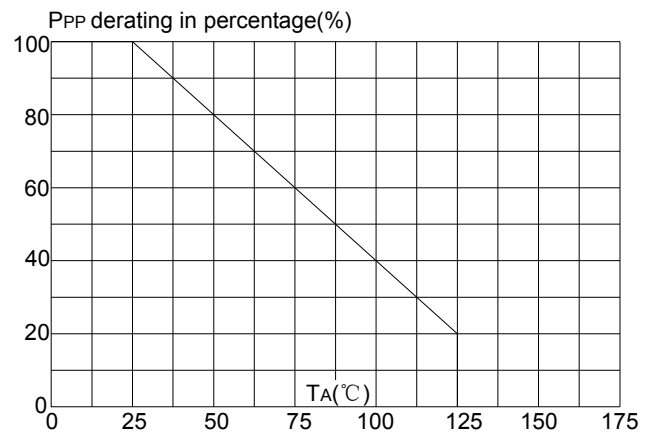
**FIG.1: V- I curve characteristics (Bi-directional)**



**FIG.2: Pulse waveform (8/20μs)**

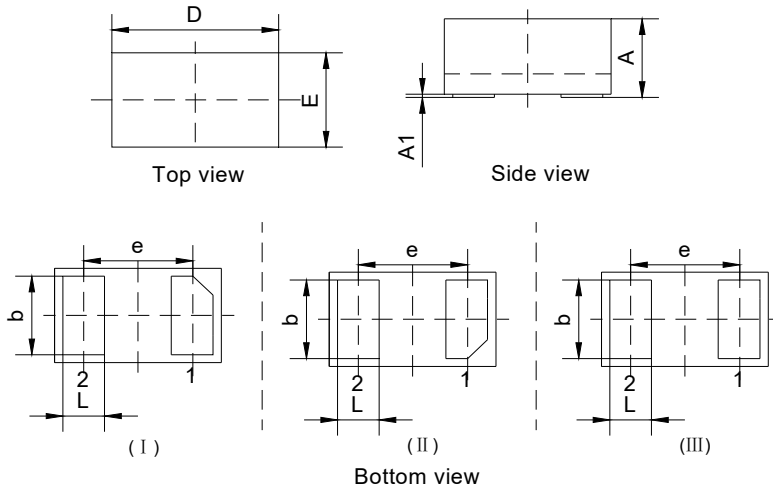


**FIG.3: Pulse derating curve**



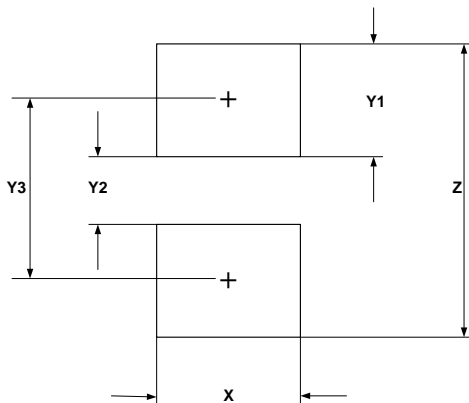
### Package Dimensions

DFN-2L



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.40	0.50	0.55	0.016	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.20	0.25	0.30	0.008	0.010	0.012

### Pad Dimensions



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.60	0.024
Y1	0.50	0.020
Y2	0.30	0.012
Y3	0.80	0.032
Z	1.30	0.052