

Features

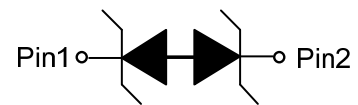
- Stand-off voltage: 24V Max
- Transient protection for each line according to
IEC61000-4-2(ESD): $\pm 30\text{kV}$ (contact)
IEC61000-4-5(surge): 5A (8/20 μs)
- Low leakage current
- Low clamping voltage: $V_{\text{CL}} = 30\text{V}$ typ. @ IPP = 16A (TLP)
- RoHS Compliant
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101



0402(DFN-2L)

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players



PIN Configuration

Mechanical Data

- Package: DFN-2L
- Case Material: "Green" Molding Compound
- Moisture Sensitivity: Level 3 per J-STD-020
- Marking Information: 4B

Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 8/20\mu\text{s}$)	P_{pk}	180	W
Peak pulse current ($t_p = 8/20\mu\text{s}$)	I_{PP}	5	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	kV
ESD according to IEC61000-4-2 contact discharge		± 30	
Junction temperature	T_J	-55~125	$^{\circ}\text{C}$
Storage temperature	T_{STG}	-55~150	$^{\circ}\text{C}$

Electrical Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	V _{RWM}	V				24
Reverse leakage current	I _R	nA	V _{RWM} = 24V			200
Reverse breakdown voltage	V _{BR}	V	I _{BR} = 1mA	27		
Clamping voltage ¹⁾	V _{CL}	V	I _{PP} = 16A, t _p = 100ns		30	
Dynamic resistance ¹⁾	R _{DYN}	Ω			0.3	
Clamping voltage ²⁾	V _{CL}	V	V _{ESD} = 8kV		35	
Clamping voltage ³⁾	V _{CL}	V	I _{PP} = 1A, t _p = 8/20μs			32
		V	I _{PP} = 5A, t _p = 8/20μs			36
Junction capacitance	C _J	pF	V _R = 0V, f = 1MHz		5	

Notes:

- (1). TLP parameter: Z₀ = 50Ω, t_p = 100ns, t_r = 2ns, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.
- (2). Contact discharge mode, according to IEC61000-4-2.
- (3). Non-repetitive current pulse, according to IEC61000-4-5.

Characteristics (Typical)

Fig.1 8/20μs waveform per IEC61000-4-5

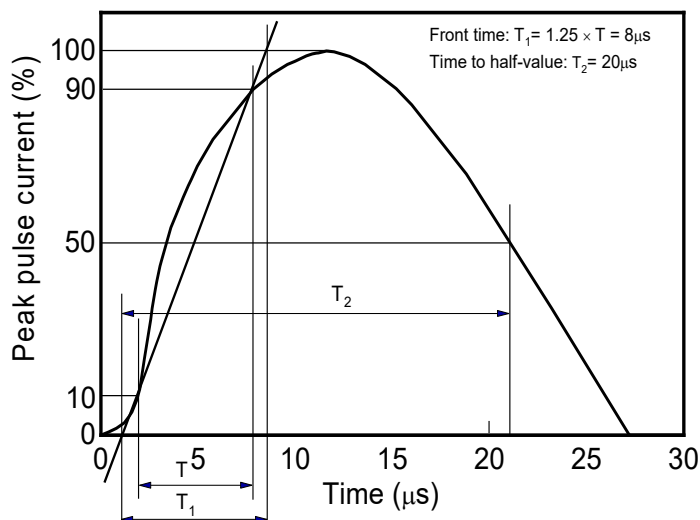
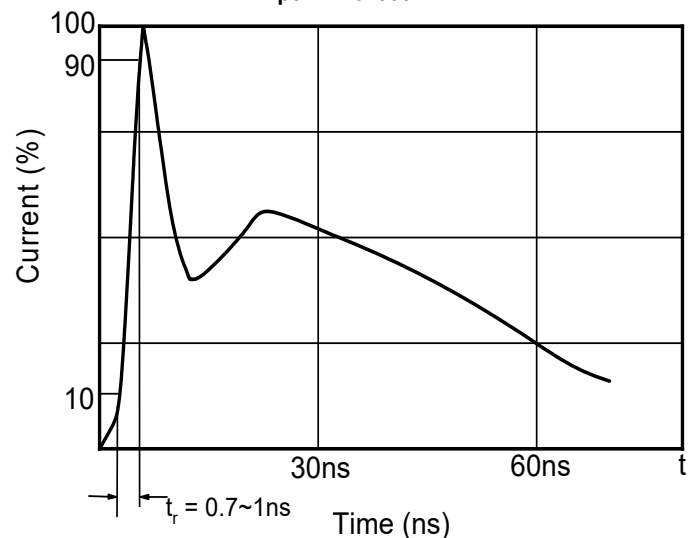


Fig.2 Contact discharge current waveform per IEC61000-4-2



Characteristics (Typical)

Fig.3 Clamping voltage vs. Peak pulse current

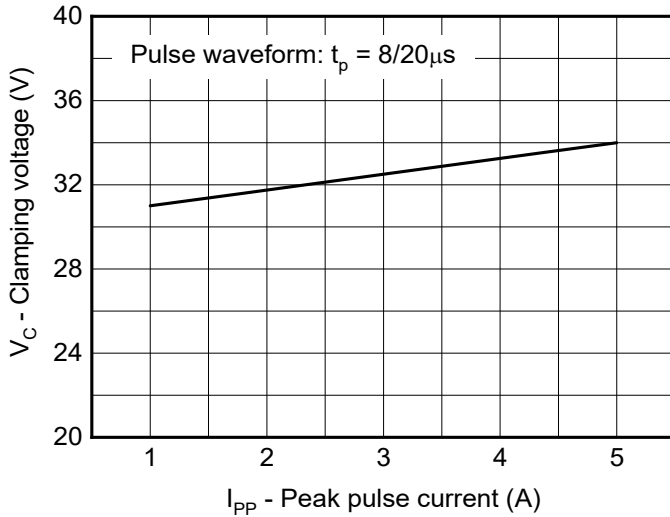


Fig.4 Capacitance vs. Reverse voltage

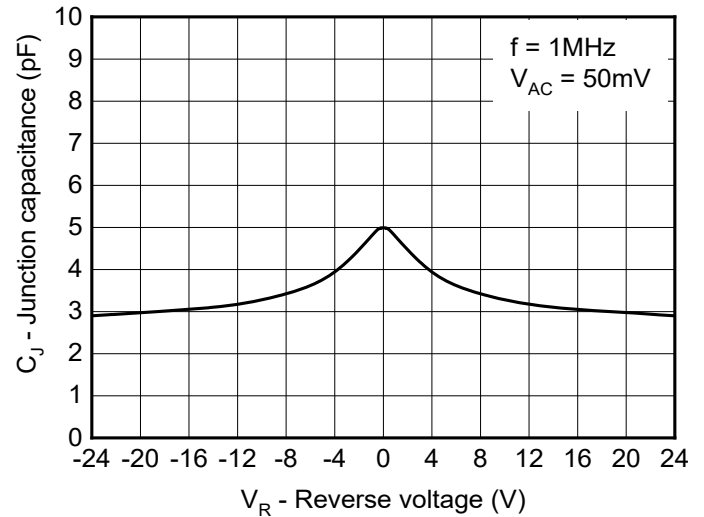


Fig.5 Non-repetitive peak pulse power vs. Pulse time

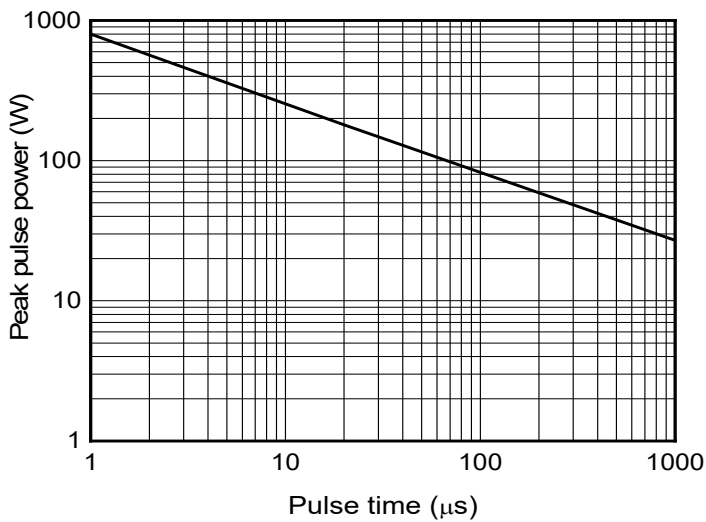


Fig.6 Power derating vs. Ambient temperature

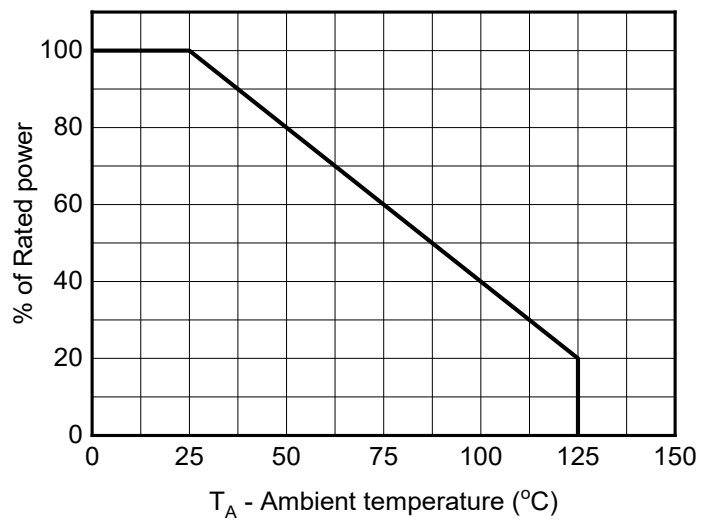


Fig.7 ESD clamping
(+8kV contact discharge per IEC61000-4-2)

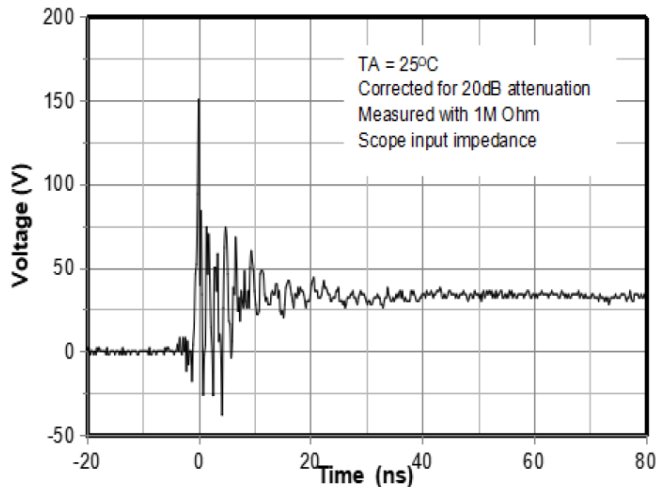
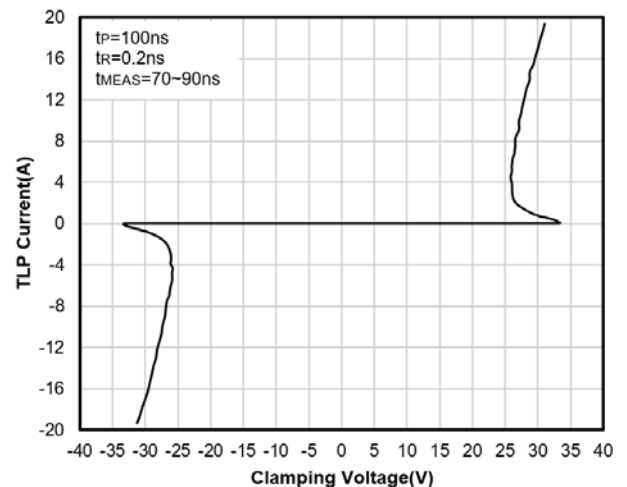
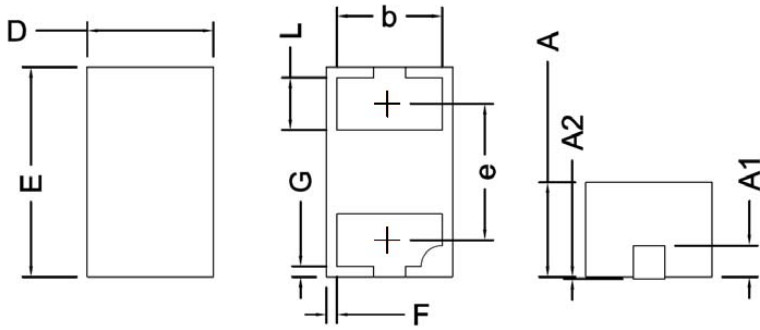


Fig.8 TLP Measurement

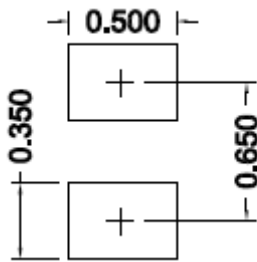


Outline Dimensions



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
D	0.50	0.60	0.70
E	0.90	1.00	1.10
A	0.35	0.45	0.55
A1	0.15 BSC		
A2			0.10
F	0.005		
G	0.005		
L	0.15	0.25	0.35
b	0.41	0.50	0.59
e	0.65 BSC		

Recommended PCB Layout



Unit:mm

Notes:

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