SEMICONDUCTOR

ESDN2L0603C24V01R

Transient Voltage SuppressionDiode

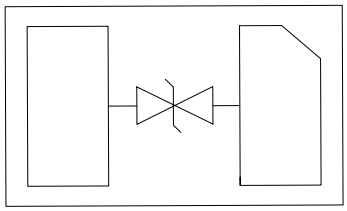
Features

- Ultra small package: 0.6x0.3x0.3mm
- Ultra low capacitance: 0.3pF typical
- Ultra low leakage: nA level
- Operating voltage: 24V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
  - IEC 61000 -4-2 (ESD) immunity test
    Air discharge: ±15kV
    Contact discharge: ±8kV
  - IEC61000 -4-5 (Lightning) 1.5A (8/20μs)

DFN0603-2L

Application

- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB Ports
- Digital Visual Interface (DVI)
- PCI Express and Serial SATA Ports



Circuit and Pin Schematic

MechanicalData

- DFN0603-2L package
- Case Material: "Green " Molding Compound.
- Moisture Sensitivity: Level 1 per J- STD -020
- Marking Information: CR

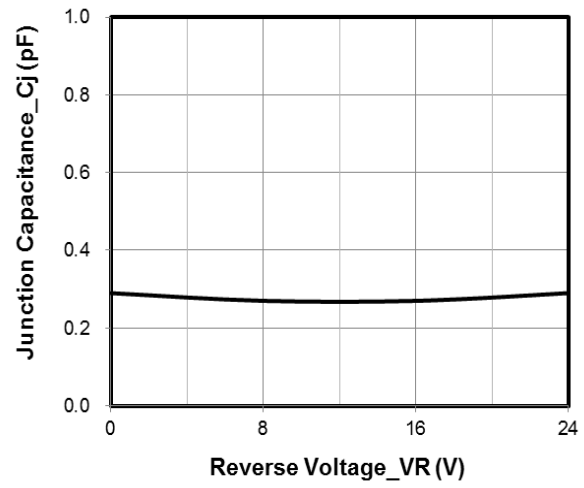
Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power(8/20 μ s)	P_{pk}	80	W
Peak Pulse Current(8/20 μ s)	Ipp	1. 5	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 15 ± 8	kV
Operating Temperature Range	T_J	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

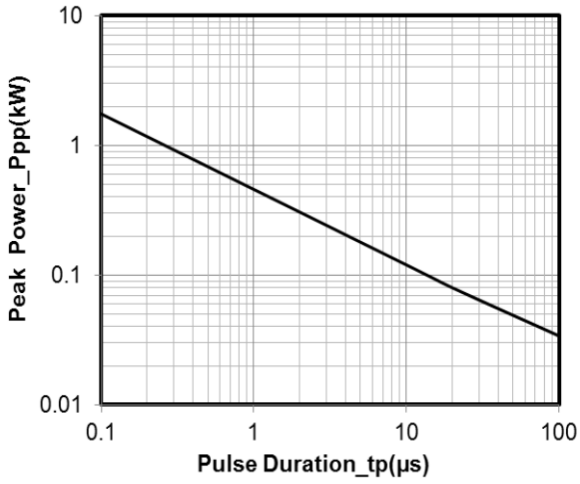
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			24	V	
Breakdown Voltage	V_{BR}	26.5			V	I_T = 1mA
Reverse Leakage Current	I_R			0.5	μA	V_{RWM} = 24V
Clamping Voltage	V_C			40	V	I_{PP} = 1A (8 x 20μs pulse)
Clamping Voltage	V_C			53	V	I_{PP} = 1. 5A (8 x 20μs pulse)
Junction Capacitance	C_J		0.3		pF	VR = 0V, f = 1MHz

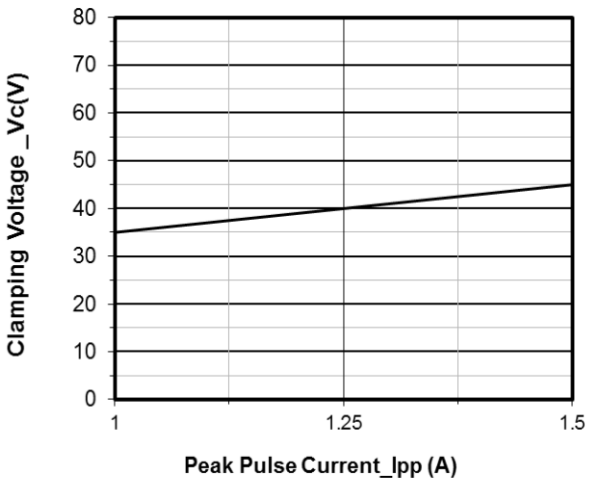
Typical Performance Characteristics (T_A=25°C unless otherwise Specified)



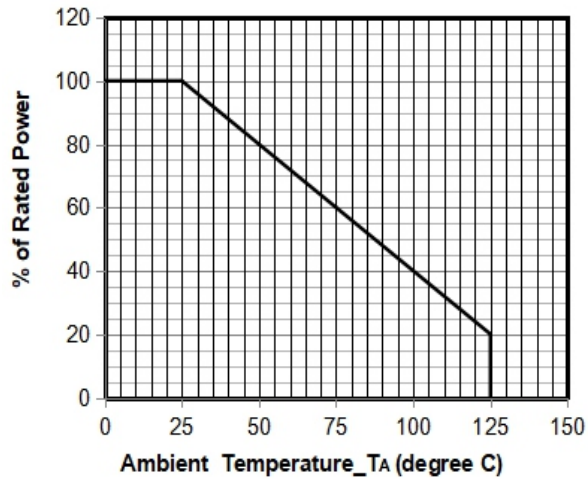
Junction Capacitance vs. Reverse Voltage



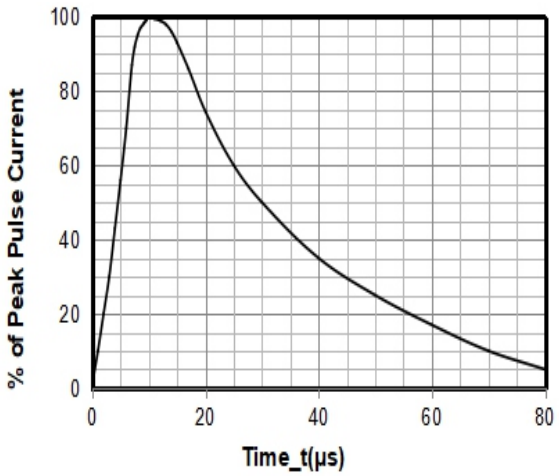
Peak Pulse Power vs. Pulse Time



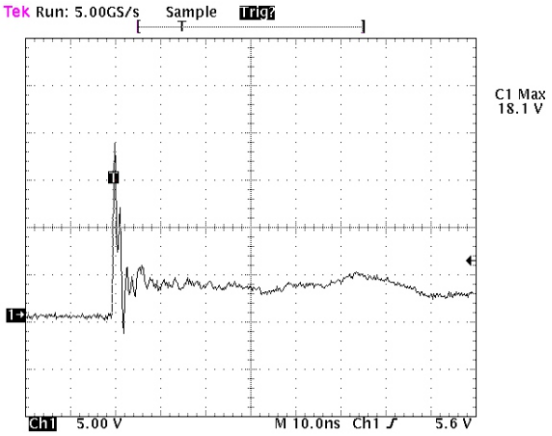
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform

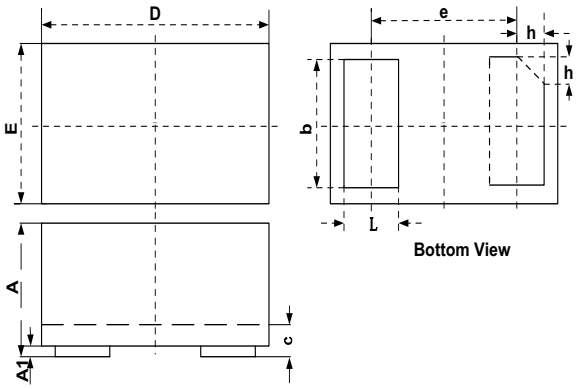


Note：Data is taken with a 10x attenuator

ESD Clamping Voltage

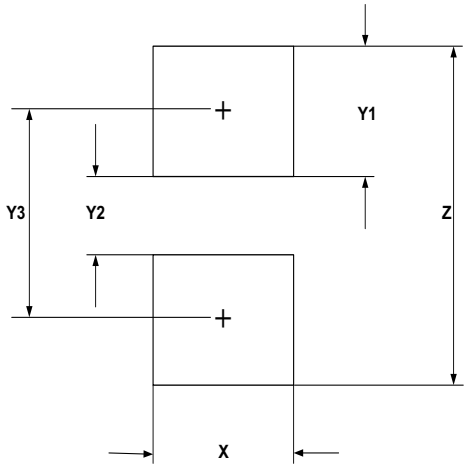
8 kV Contact per IEC61000−4−2

Outline Dimensions



SYM	DIMENSIONS		
	MILLIMETERS		
	MIN	NOM	MAX
A	0.230		0.330
A1	0.000	0.020	0.050
b	0.215	0.245	0.275
c	0.120	0.150	0.180
D	0.550	0.600	0.650
e	0.355 BSC		
E	0.250	0.300	0.350
L	0.160	0.190	0.220
h	0.079 BSC		

Suggested pad layout



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.30	0.012
Y1	0.25	0.010
Y2	0.15	0.006
Y3	0.40	0.016
Z	0.65	0.026

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