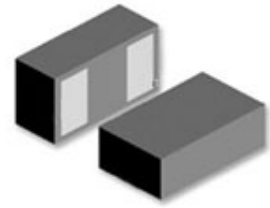
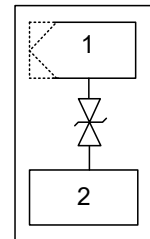


Features

- low capacitance: 0.3pF typical
- Ultra low leakage: nA level
- Operating voltage: 3.3V
- Low clamping voltage
- 2-pin lead less package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 15\text{kV}$
Contact discharge: $\pm 15\text{kV}$
 - IEC 61000-4-5 (Lightning) 5A (8/20 μs)
- RoHS compliant



DFN0603



Schematic Diagram

Applications

- Cellular handsets and accessories
- Display ports
- MDDI / MHL
- USB 2.0 / USB 3.0
- Digital visual interface (DVI)
- PCI express and serial SATA ports

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{pk}	35	W
Peak Pulse Current (8/20 μs)	I_{pp}	5	A
ESD Per IEC 61000-4-2 (Air)	V_{ESD}	± 15	kV
ESD Per IEC 61000-4-2 (Contact)		± 15	
Operating Temperature Range	T_J	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}	-	-	-	3.3	V
Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	3.5	-	-	V
Reverse Leakage Current	I_R	$V_{RWM}=3.3\text{V}$	-	-	0.2	μA
Clamping Voltage	V_C	$I_{pp}=5\text{A}$ (8 x 20 μs pulse)	-	-	7	V
ESD Clamping Voltage ¹	V_C	$I_{pp}=4\text{A}$, $t_p=0.2/100\text{ns}$ (TLP)	-	5.1	-	V
		$I_{pp}=16\text{A}$, $t_p=0.2/100\text{ns}$ (TLP)	-	9.1	-	V
Dynamic Resistance ²	R_{DYN}	$t_p=0.2/100\text{ns}$ (TLP)	-	0.36	-	Ohm
Junction Capacitance	C_J	$V_R=0\text{V}$, $F=1\text{MHz}$	-	0.3	-	pF

Note:

1. Transmission line pulse test (TLP) settings: $t_p=100\text{ns}$, $t_r=0.2\text{ns}$.
2. Dynamic resistance calculated from ITLP=4A to ITLP=16A.

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

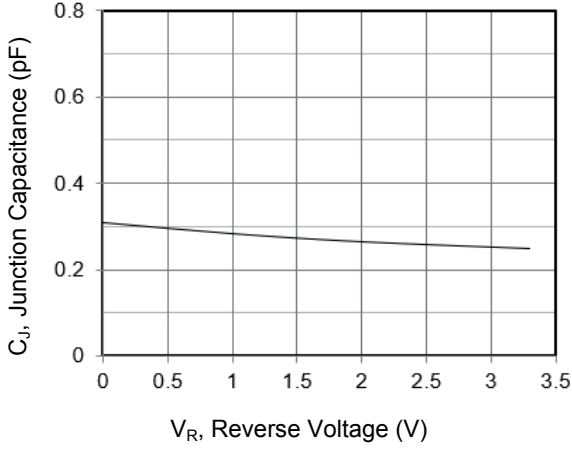


Figure 1. Junction Capacitance vs. Reverse Voltage

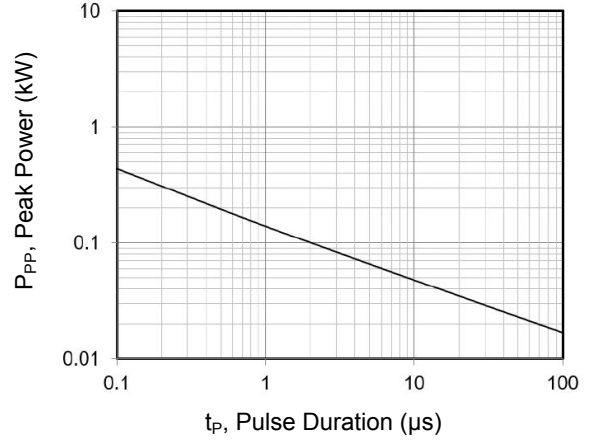


Figure 2. Peak Pulse Power vs. Pulse Time

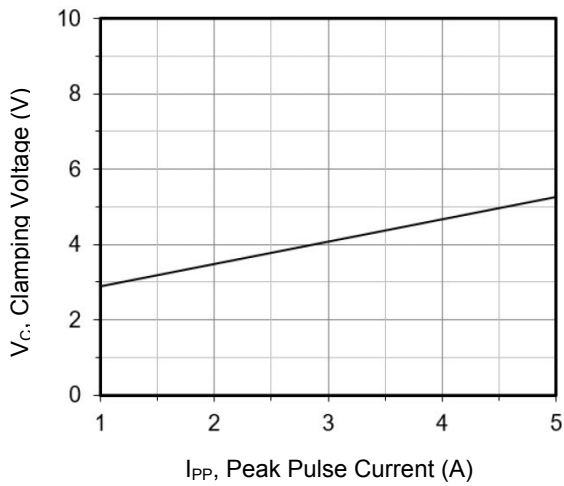


Figure 3. Clamping Voltage vs. Peak Pulse Current
($t_p=8/20\mu\text{s}$)

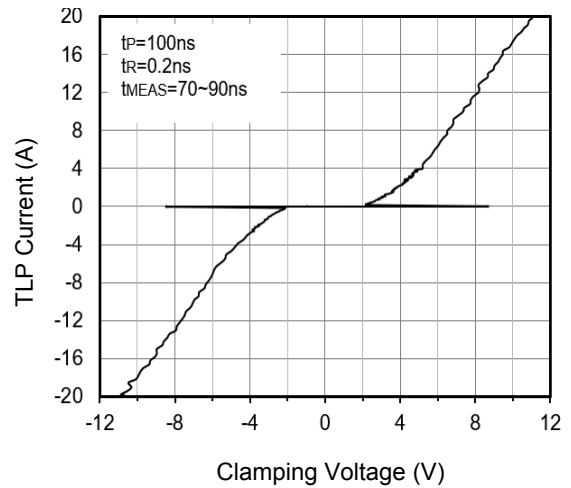


Figure 4. TLP Measurement

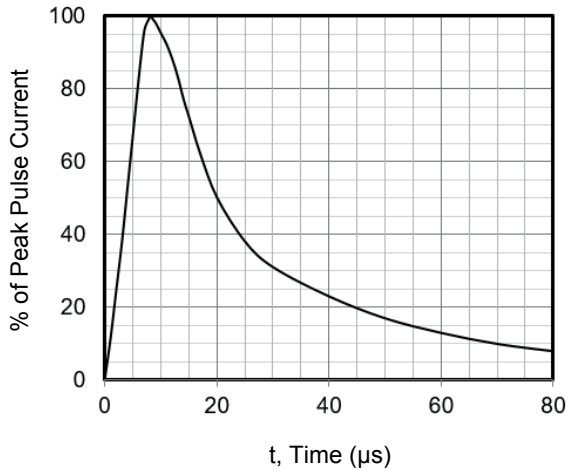


Figure 5. 8 X 20 μs Pulse Waveform

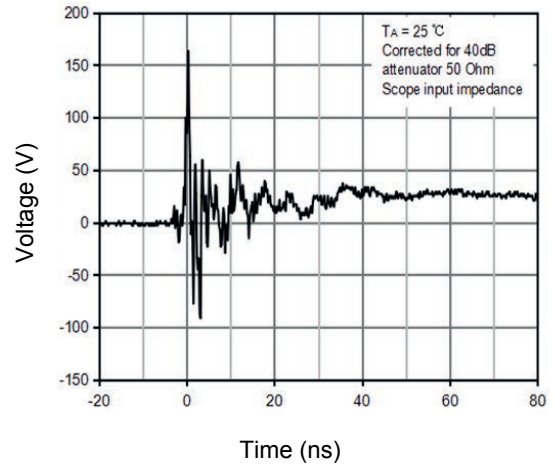
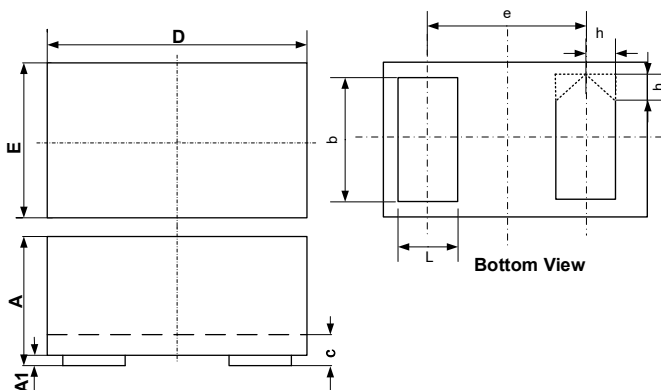


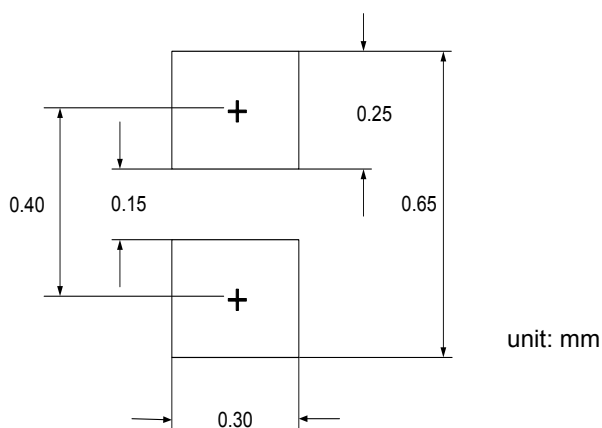
Figure 6. ESD Clamping Voltage
8kV Contact per IEC61000-4-2

Package Outline Dimensions (DFN0603)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.230	0.340	0.009	0.013
A1	0.000	0.050	0.000	0.002
b	0.200	0.300	0.008	0.012
c	0.050	0.180	0.002	0.007
D	0.550	0.650	0.022	0.026
e	0.360 BSC		0.014 BSC	
E	0.250	0.350	0.010	0.014
L	0.130	0.240	0.005	0.009
h	0.079 BSC		0.003 BSC	

Recommended Pad Layout



Order Information

Device	Package	Marking	Carrier	Quantity
GSEN3B0031	DFN0603	1B	Tape & Reel	10,000 pcs / Reel

For more information, please contact us at: inquiry@goodarksemi.com