



Features

- Ultra small package: 1.0x0.6x0.5mm
- Ultra low capacitance: 0.3pF typical
- No insertion loss to 3.0GHz
- Working voltage: 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 26\text{kV}$
 - IEC61000-4-5 (Lightning) 4A (8/20 μs)
- RoHS Compliant

Applications

- High Speed Line :USB1.0/2.0/3.0/3.1, VGA, DVI.SDI
- High Definition Multi-Media Interface (HDMI1.3/1.4/2.0)
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Peripherals
- Cellular handsets and accessories
- Portable instrumentation

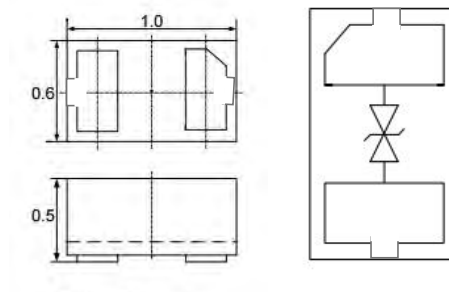
Ordering Information

Part Number	Packaging	Reel Size
ESDQR5V0BJC	10000/Tape & Reel	7 inch

Marking information



Dimensions & Symbol (Unit: mm Max)



Mechanical Characteristics

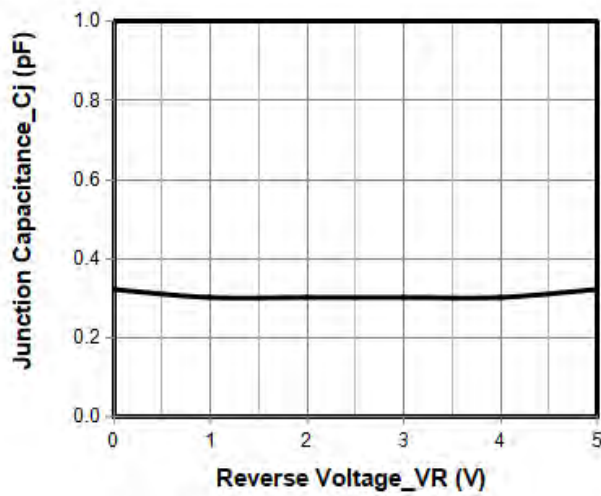
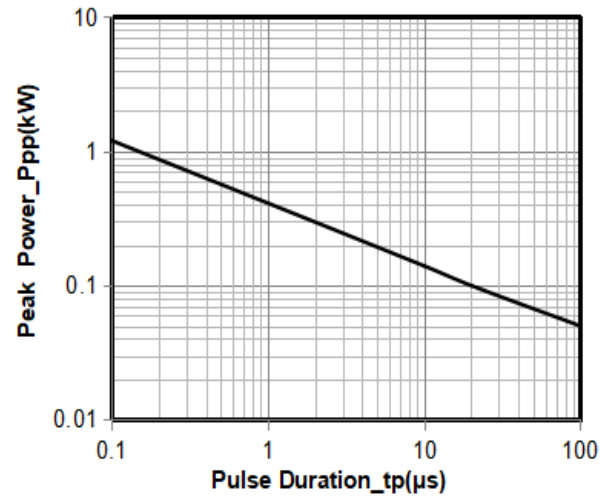
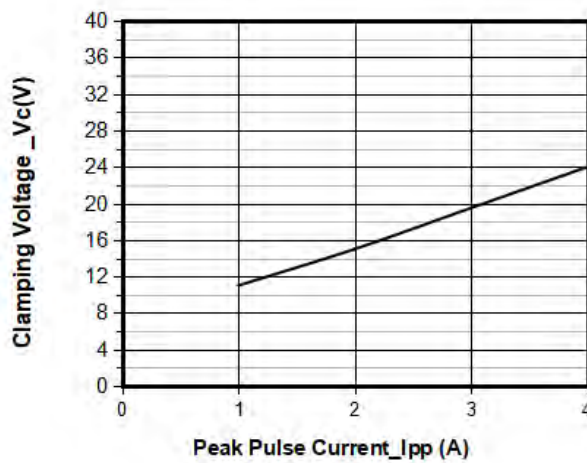
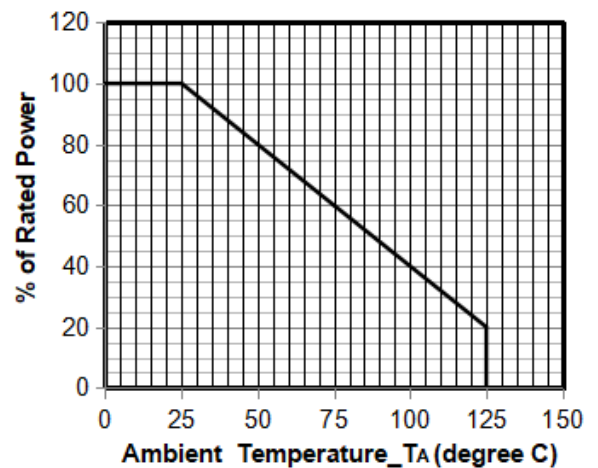
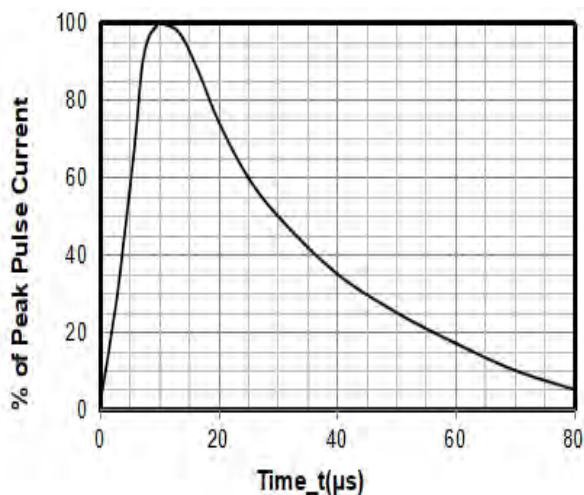
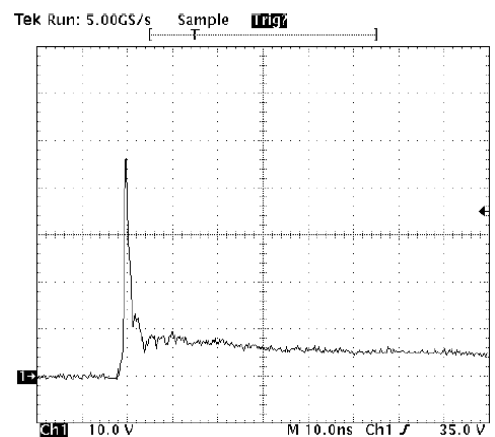
- Package: DFN1006-2 (1.0×0.6×0.5mm)
- Lead Finish: NiPdAu
- Case Material: “Green” Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram
- Marking Information: 21

**Absolute maximum ratings** ($T_A=25^{\circ}\text{C}$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p=8/20\mu\text{s}$ waveform)	P_{ppp}	100	W
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 26	
Operating Temperature Range	T_J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^{\circ}\text{C}$

Electrical characteristics ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V_{RWM}			5	V	
Breakdown Voltage	V_{BR}	6		10	V	$I_T = 1\text{mA}$
Reverse Leakage Current	I_R			0.2	μA	$V_{RWM} = 5.0\text{V}$
Clamping Voltage	V_C			12	V	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)
Clamping Voltage	V_C			25	V	$I_{PP} = 4\text{A}$ (8 x 20 μs pulse)
Junction Capacitance	C_J		0.3	0.5	pF	$V_R = 0\text{V}$, $f = 1\text{MHz}$

**Typical Performance Characteristics (TA=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**

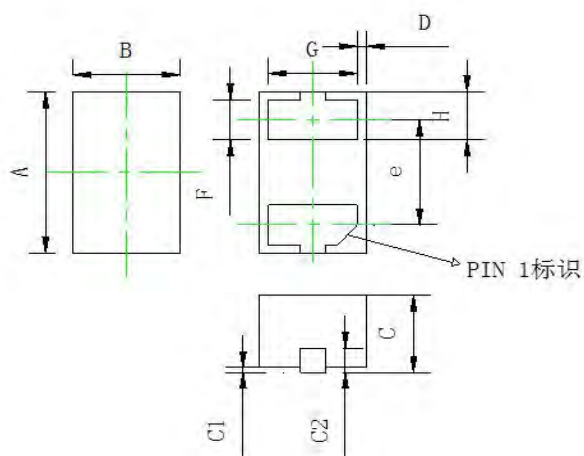
Note: Data is taken with a 10x attenuator

ESD Clamping Voltage

8 kV Contact per IEC61000-4-2

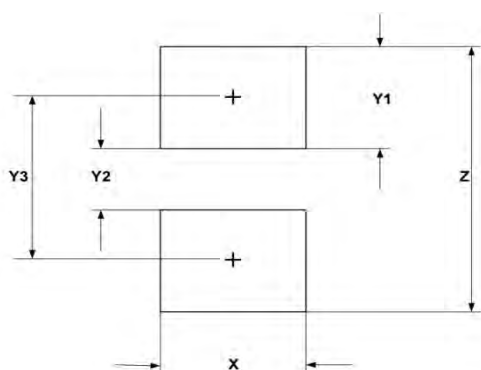


Package mechanical data



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0.95	1.00	1.05
B	0.55	0.60	0.65
C	0.40	0.45	0.50
C1			0.05
D	0.02	0.05	0.08
e	0.65 BSC		
F	0.20	0.25	0.30
G	0.45	0.50	0.55
H	0.27	0.30	0.33
C2	0.13	0.15	0.17

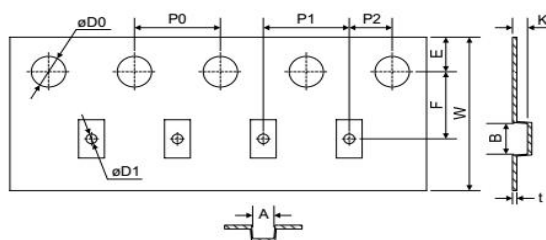
Suggested Land Pattern



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

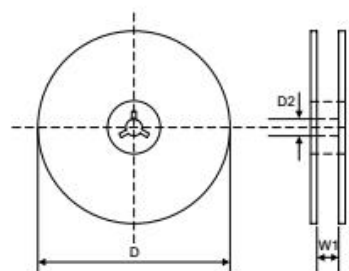
Tape Specification - DFN1006 (mm)

W	8.0 ± 0.1
P1	2.0 ± 0.1
A	0.7 ± 0.05
B	1.15 ± 0.05
K	0.57 ± 0.03



Reel Specification - DFN1006 (mm)

W1	8.6
D	180.0 ± 1.0
D2	24 ± 1.0



**Soldering parameters**

Reflow Condition		Pb-Free assembly (see FIG.2)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150°C
	-Temperature Max($T_{s(max)}$)	+200°C
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217°C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C

