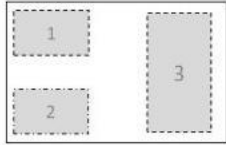
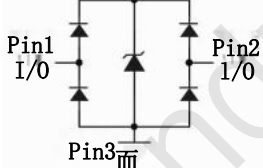




2-Line ESD Protection Diode Array

DFN1006-3L

Schematic & Pin configuration

Simplified outline	Graphic symbol
<p>top view</p> 	

General description

The ESD0502U is an uni-directional TVS diode,utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage, making this device an ideal solution for protecting voltage sensitive high-speed data lines.The ESD0502U has an ultra-low capacitance with a typical value at 0.4pF,and complies with the IEC 61000-4-2 (ESD)standard with $\pm 15\text{kV}$ air and $\pm 8\text{kV}$ contact discharge.It is assembled into an ultra-small 1.0x0.6x0.5mm ead-free DFN package.The small size,ultra-low capacitance and high ESD surge protection make ESD0502U an ideal choice to protect cell phone,digital video interfaces and other high speed ports.

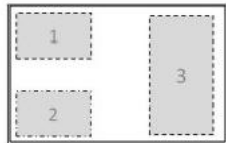
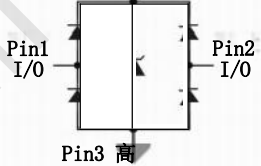
Features and benefits

- 2 Unidirectional transil functions
- Ultra small package:1.0x0.6x0.5mm
- Ultra Low Capacitance 0.35pF(I/O--GND)
- Reverse stand-off voltage:5V Max
- Low leakage current:nA Level
- Low clamping voltage
- 3-pin leadless package
- Complies with following standards:
 - IEC 61000-4-2 (ESD)immunity test
 - Air discharge: $\pm 15\text{kV}$
 - Contact discharge: $\pm 8\text{kV}$
 - IEC61000-4-4 (EFT)40A(5/50ns)
 - IEC61000-4-5 (Lightning)3A(8/20 μ s)
- RoHS Compliant
- Lead Finish:NiPdAu

Application information

- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB 2.0 and 3.0 Ports
- HDMI 1.3 and 1.4
- Digital Video Interface (DVI)
- PCI Express and Serial SATA Ports
- Notebook Computer
- IEEE 1394

Schematic & Pin configuration

Simplified outline	Graphic symbol
<p>top view</p> 	

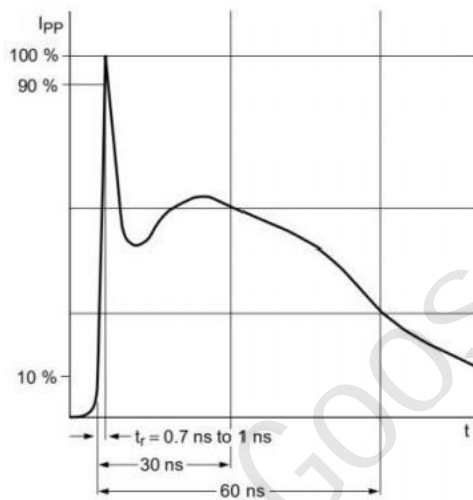
Maximum Ratings ro=-25c,unless otherwise specftea)

Parameter	Symbol	Value	Unit
Peak Pulse Power (Tp=8/20 μ s)	PppN	60	W
Rated Peak Pulse Current (Tp=8/20 μ s)	IpPM	3	A
ESD voltage IEC 61000-4-2 (air discharge)	VESD	15	kV
ESD voltage IEC 61000-4-2 (contact discharge)	VESD	8	kV
Maximum lead temperature for soldering during 10s	TL	260	° C
Storage Temperature Range	Tstg	-55 to +150	° C
Operating Temperature Range	Top	-55 to +125	° C

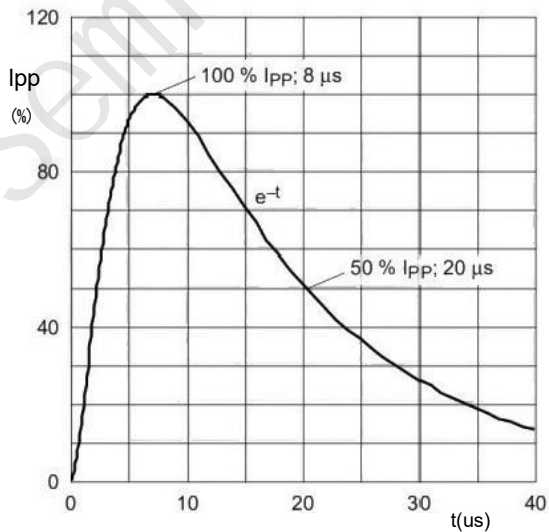
Electrical Characteristics ($r_o=25^{\circ}\text{C}$, unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	VRWN			5.0	V	
Breakdown Voltage	VBR	6.5		9.0	V	$r=1\text{mA}$
Leakage Current ILeak	I_r			500	nA	$V_{RWM}=5\text{V}$
Clamping Voltage	V_c			21.0	V	$pp=3\text{A}$, $T_p=8/20\ \mu\text{s}$
Junction Capacitance	C_j		0.35	0.45	pF	$V_R=0\text{V}$, $f=1\text{MHz}$, I/O to GND
Junction Capacitance	C_j		0.2	0.3	pF	$V_R=0\text{V}$, $f=1\text{MHz}$, I/O to I/O

Typical Characteristics

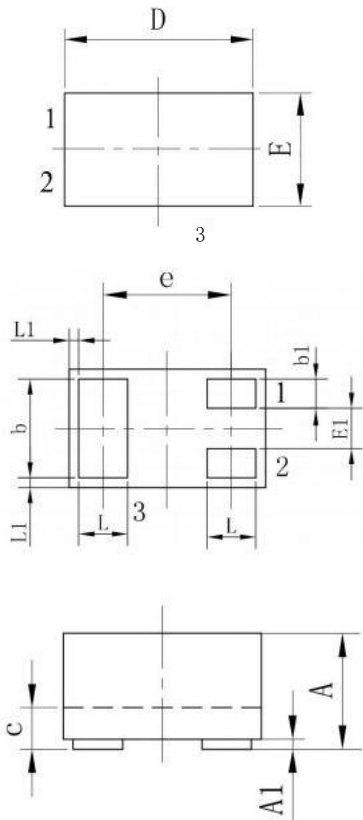


IEC61000-4-2 Waveform



IEC 61000-4-5 Waveform(8/20us pulse)

Package Outline Dimensions (DFN1006-3L)



Symbol	Dimensions In Millimet	
	Min	Max
A	0.45	0.55
A1	0.00	0.05
b	0.45	0.55
b1	0.10	0.20
C	0.12	0.18
D	0.95	1.05
e	0.65BSC	
E	0.55	0.65
E1	0.15	0.25
L	0.20	0.30
L1	0.05REF	

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[P6KE13CA](#) [P6KE43CA](#) [P6KE6.8CA](#) [P6KE8.2](#) [P6SMBJ20CA](#) [JANTX1N6072A](#) [SR2835ESKG](#) [SA90CA](#)