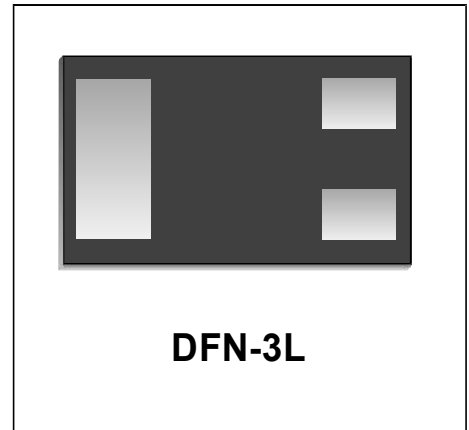


### Features

- 50 Watts Peak Power per Line ( $t_p = 8/20\mu s$ )
- Protects two I/O lines
- Low operating voltage: 5V
- Low Leakage Current
- Solid-state technology

### IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 15kV$  (air),  $\pm 10kV$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 4A (8/20 $\mu s$ )



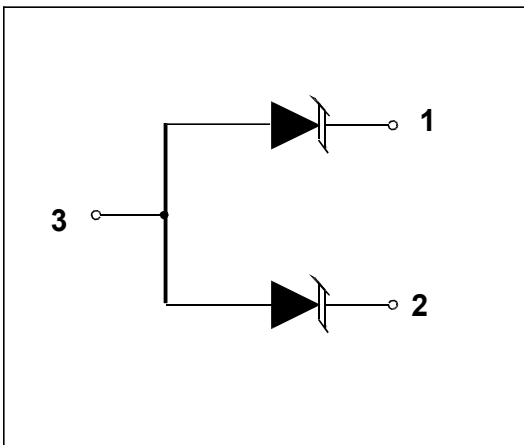
### Mechanical Characteristics

- JEDEC DFN-3L package
- Molding compound flammability rating: UL 94V-0
- Marking : Making Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant

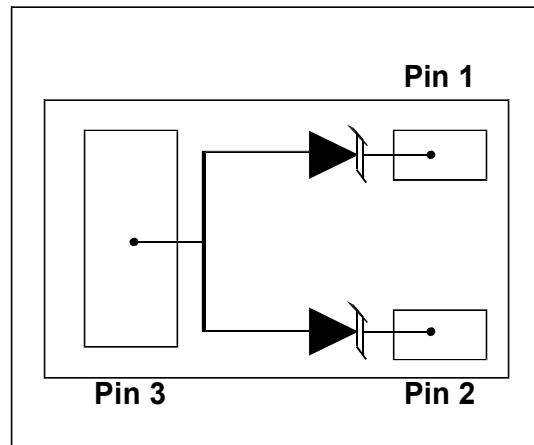
### Applications

- FireWire & USB
- Sensitive Analog Inputs
- Portable Electronics
- LAN/WAN equipment
- Video Line Protection
- Microcontroller Input Protection

### Circuit Diagram



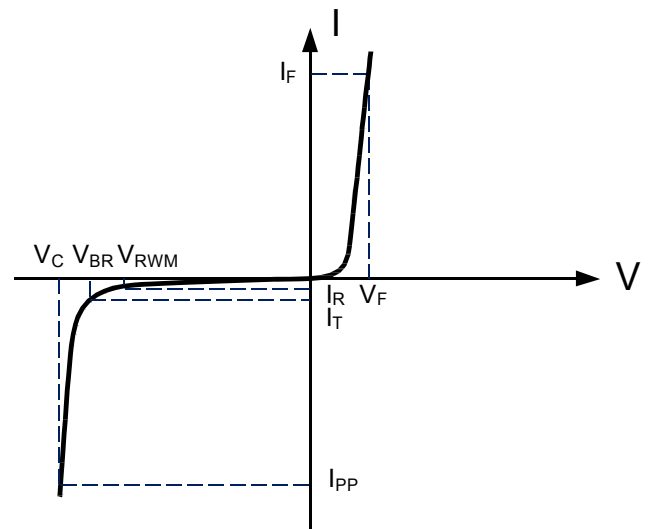
### Schematic & PIN Configuration



<b>Absolute Maximum Rating</b>			
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p=8/20\mu s$ )	$P_{PP}$	50	Watts
Peak Pulse Current ( $t_p=8/20\mu s$ )	$I_{PP}$	4	A
Lead Soldering Temperature	$T_L$	260(10sec)	$^{\circ}C$
Operating Temperature	$T_J$	-55 to + 125	$^{\circ}C$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}C$

### Electrical Parameters (T=25 $^{\circ}C$ )

Symbol	Parameter
$I_{PP}$	Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Reverse Stand-Off Voltage
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current



### Electrical Characteristics

<b>BDFN3A052U</b>						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				5.0	V
Breakdown Voltage	$V_{BR}$	$I_T=1mA$	5.6			V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V, T=25^{\circ}C$			0.5	nA
Clamping Voltage	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$			9.5	V
Clamping Voltage	$V_C$	$I_{PP}=3A, t_p=8/20\mu s$		11	12	V
Junction Capacitance	$C_j$	Between pin3 and pin1/ pin2, $V_R=0V, f=1MHz$		0.5	0.75	pF
		Between pin1 and pin2, $V_R=0V, f=1MHz$		0.3	0.35	pF

## Typical Characteristics

Fig.1 Peak Pulse Power Rating Curve

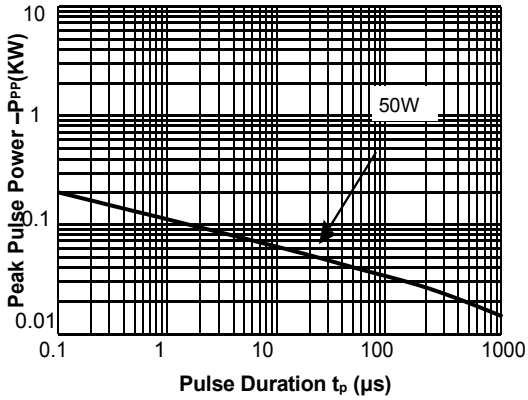


Fig.2 Pulse Derating Curve

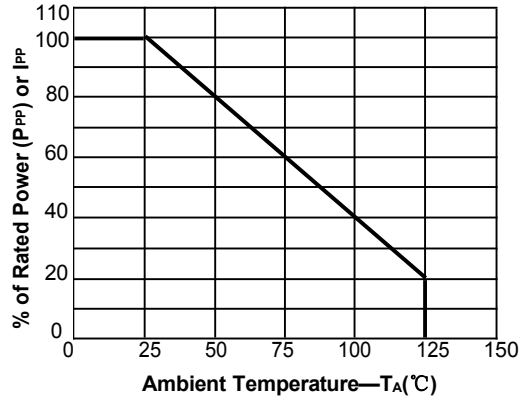


Fig.3 Pulse Waveform-8/20μs

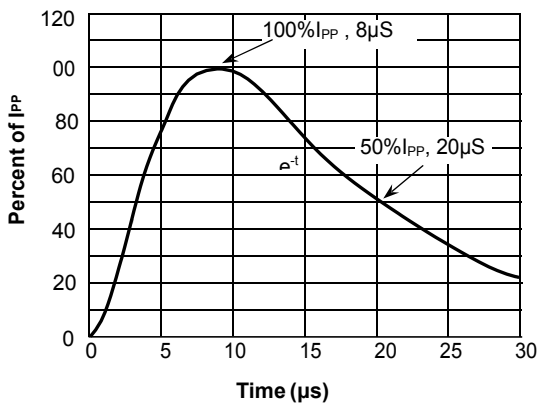


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

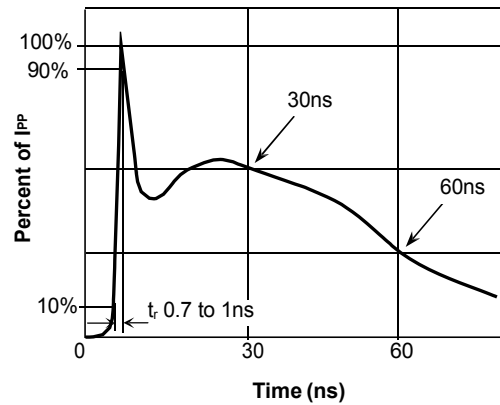


Fig.5 IEC61000-4-2 +8kV Contact Discharge

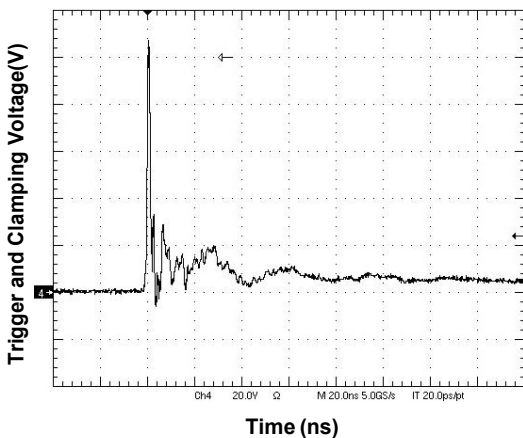
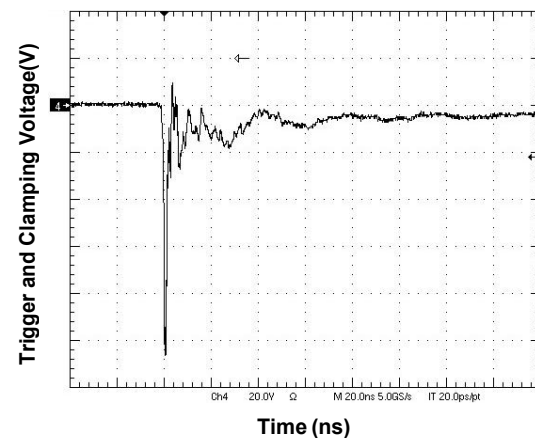
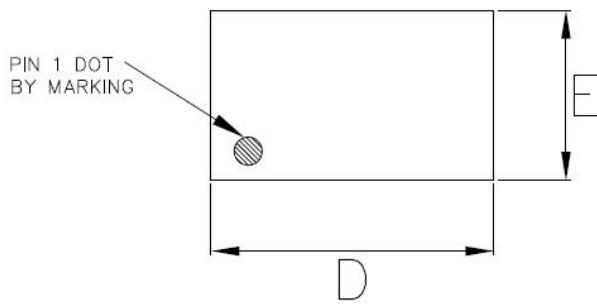


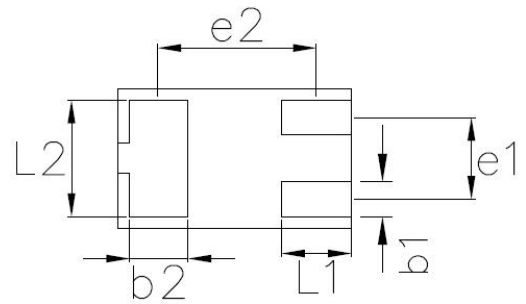
Fig.6 IEC61000-4-2 -8kV Contact Discharge



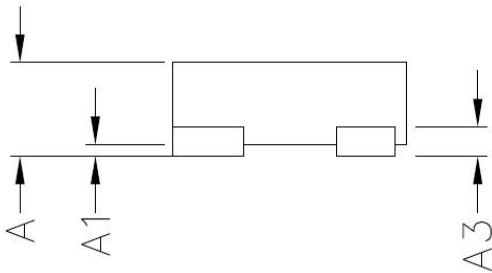
### Outline Drawing – DFN-3L



Top View



Bottom View



Side View

Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.40	-	0.50
A1	0.00	-	0.05
A3	0.125 REF		
D	0.95	1.00	1.05
E	0.55	0.60	0.65
b1	0.10	0.15	0.20
b2	0.20	0.25	0.30
L1	0.20	0.30	0.40
L2	0.40	0.50	0.60
e1	0.350 BSC		
e2	0.675 BSC		

### Marking Codes

Part Number	BDFN3A052U	Marking Code	L
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### Package Information

Qty: 10k/Reel