NUP5150MU

ESD Protection Diode Array, 5-Line

This 5−line surge protection array is designed for applications requiring surge protection capability. It is intended for use in over−transient voltage and ESD sensitive equipment such as cell phones, portables, computers, printers and other applications. This device features a monolithic common anode design which protects five independent lines in a single UDFN package. This device is ideal for situations where board space is at a premium.

Features

- Protects up to 5 Lines in a Single UDFN Package
- ESD Rating of Class 3B (Exceeding 8 kV) per Human Body Model
- Compliance with IEC 61000−4−2
- This is a Pb−Free Device

Applications

- Hand Held Portable Applications
- Serial and Parallel Ports
- Notebooks, Desktops, Servers

MAXIMUM RATINGS (T_J = 25°C, unless otherwise specified)

Symbol	Rating	Value	Unit
T_J	Operating Junction Temperature Range	−40 to 125	°C
T_{STG}	Storage Temperature Range	−55 to 150	°C
T_L	Lead Solder Temperature − Maximum (10 seconds)	260	°C
ESD	Human Body Model (HBM) IEC 61000−4−2 Contact (ESD)	16000 8000	V

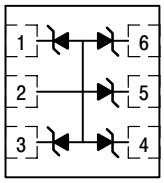
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

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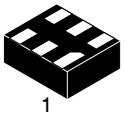
www.onsemi.com

UDFN6 5−LINE SURGE PROTECTION

PIN ASSIGNMENT



PIN 1. CATHODE
2. ANODE
3. CATHODE
4. CATHODE
5. CATHODE
6. CATHODE



UDFN6
CASE 517AA

MARKING DIAGRAM



5 = Specific Device Code
M = Month Code

*Specific Device Code orientation may vary depending upon manufacturing location.

ORDERING INFORMATION

Device	Package	Shipping†
NUP5150MUTBG	UDFN6 (Pb−Free)	3000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

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ELECTRICAL CHARACTERISTICS (T_J = 25°C, unless otherwise specified)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Reverse Working Voltage	(Note 1)	V_{RWM}		–	5.0	V
Breakdown Voltage	I_T = 1 mA, (Note 2)	V_{BR}	6.2	6.8	7.2	V
Reverse Leakage Current	V_{RWM} = 3 V	I_R	–		0.1	μA
Capacitance	V_R = 0 V, f = 1 MHz (Line to GND)	C_J	–	12	15	pF

1. Surge protection devices are normally selected according to the working peak reverse voltage (V_{RWM}), which should be equal or greater than the DC or continuous peak operating voltage level.
2. V_{BR} is measured at pulse test current I_T.

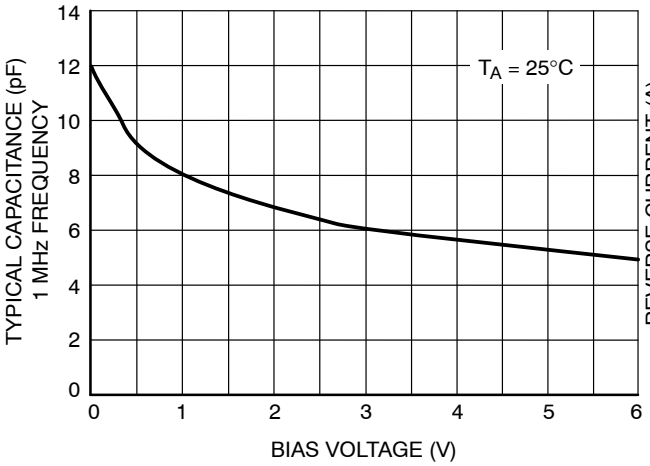


Figure 1. Capacitance

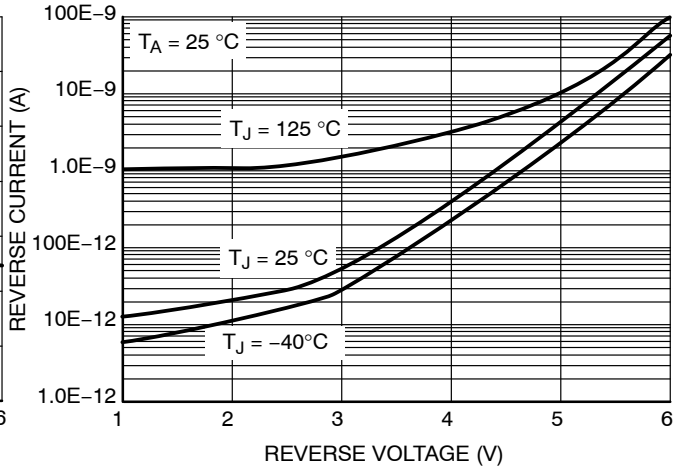


Figure 2. Typical Reverse Current vs. Reverse Voltage

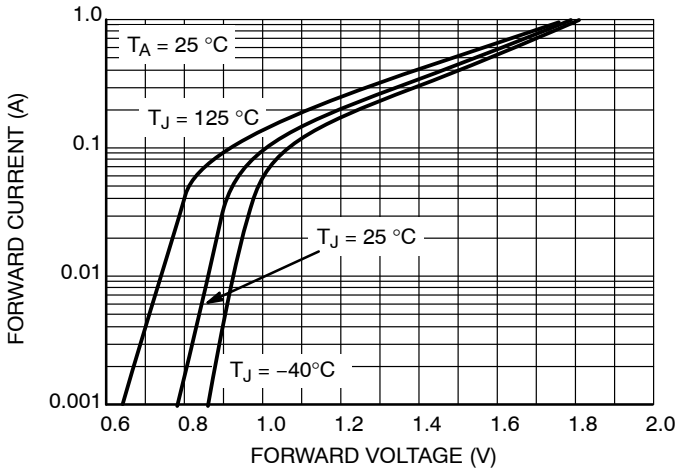
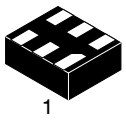


Figure 3. Typical Forward Current vs. Forward Voltage

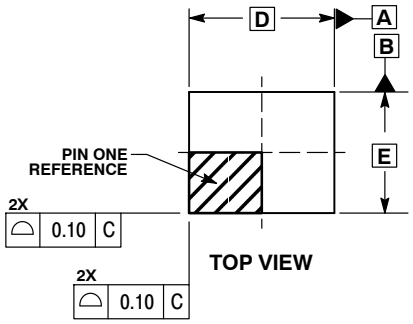
MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

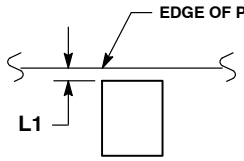
UDFN6, 1.2x1.0, 0.4P
CASE 517AA
ISSUE D

DATE 03 SEP 2010

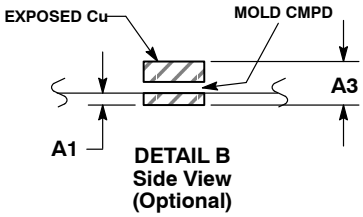


SCALE 8:1

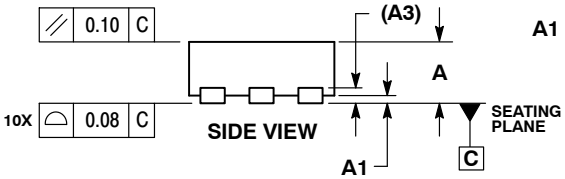


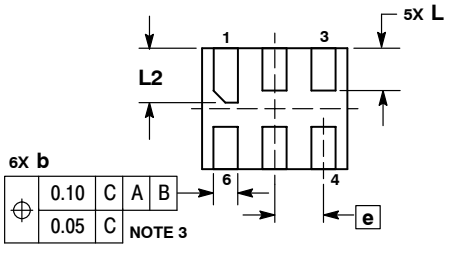


DETAIL A
Bottom View
(Optional)



DETAIL B
Side View
(Optional)





BOTTOM VIEW

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSION b APPLIES TO PLATED TERMINAL AND IS MEASURED BETWEEN 0.25 AND 0.30 mm FROM TERMINAL.
4. COPLANARITY APPLIES TO THE EXPOSED PAD AS WELL AS THE TERMINALS.

	MILLIMETERS	
DIM	MIN	MAX
A	0.45	0.55
A1	0.00	0.05
A3	0.127 REF	
b	0.15	0.25
D	1.20 BSC	
E	1.00 BSC	
e	0.40 BSC	
L	0.30	0.40
L1	0.00	0.15
L2	0.40	0.50

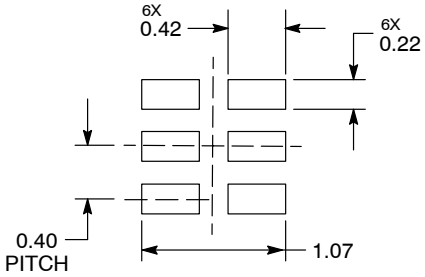
GENERIC MARKING DIAGRAM*



X = Specific Device Code
M = Date Code

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G” or microdot “ ▪”, may or may not be present.

MOUNTING FOOTPRINT*



DIMENSIONS: MILLIMETERS

*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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DESCRIPTION:	6 PIN UDFN, 1.2X1.0, 0.4P	PAGE 1 OF 1

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