

## Features

- Protects one I/O or Power Line
- Completely Compatible with SOD923
- Low Clamping Voltage
- Working Voltage: 5V
- Low Leakage Current
- Response Time is Typically < 1 ns



## IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 30\text{kV}$  (air),  $\pm 30\text{kV}$  (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)

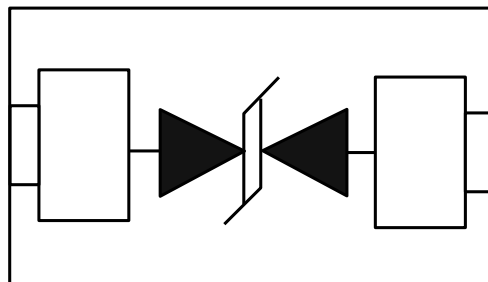
## Mechanical Characteristics

- JEDEC DFN-2L package (0402 size)
- Molding compound flammability rating:  
UL 94V-0
- Marking : Marking Code
- RoHS Compliant

## Applications

- Cellular Handsets & Accessories
- Personal Digital Assistants (PDAs)
- Notebooks & Handhelds
- Portable Instrumentation
- Digital Cameras
- MP3 Players

## Schematic & PIN Configuration

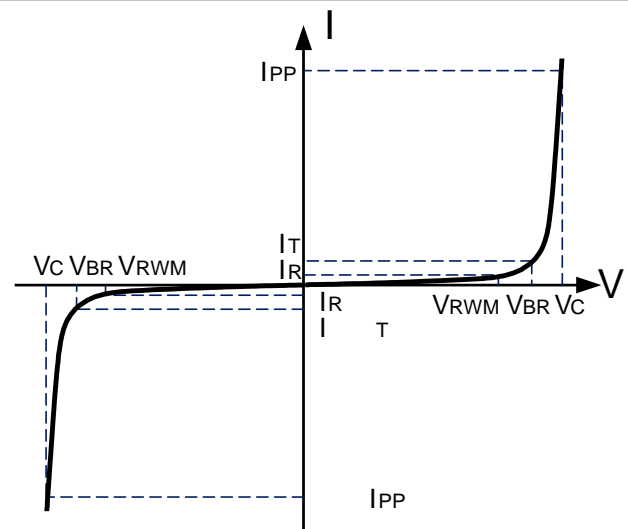


Bi irectional

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ )	$P_{PP}$	200	Watts
Peak Forward Voltage ( $I_F = 1A, t_p = 8/20\mu s$ )	$V_{FP}$	1.5	V
Operating Temperature	$T_J$	-55 to + 125	°C
Storage Temperature	$T_{STG}$	-55 to +150	°C

### Electrical Parameters (T=25°C)

Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$

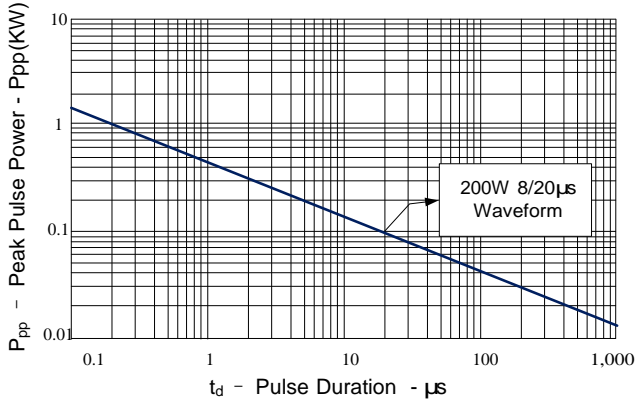


### Electrical Characteristics

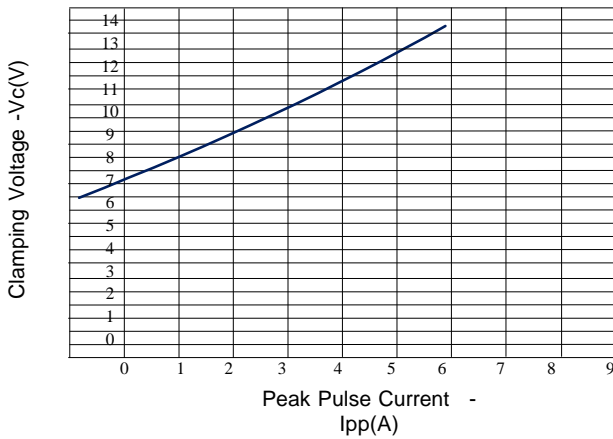
MDFN2C051V40						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	$V_{RWM}$				5.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	6.0			V
Reverse Leakage Current	$I_R$	$V_{RWM}=5V, T=25^\circ C$			1	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			18	A
Clamping Voltage	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$			8.0	V
Clamping Voltage	$V_C$	$I_{PP}=18A, t_p=8/20\mu s$		11		V
Junction Capacitance	$C_j$	$V_R=0V, f=1MHz$		34		pF

## Typical Characteristics

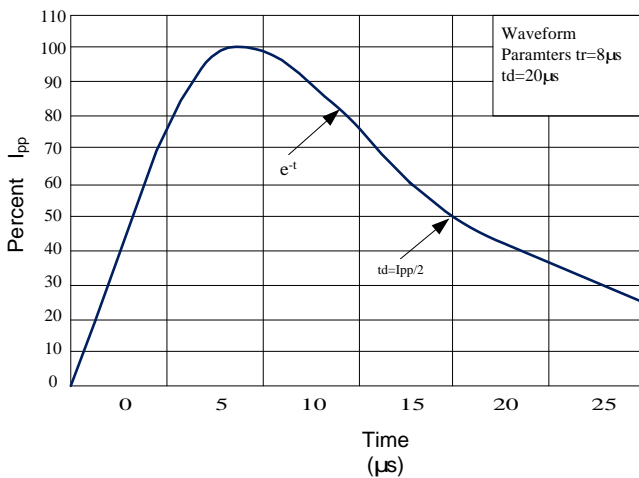
**Figure 1: Peak Pulse Power Vs Pulse Time**



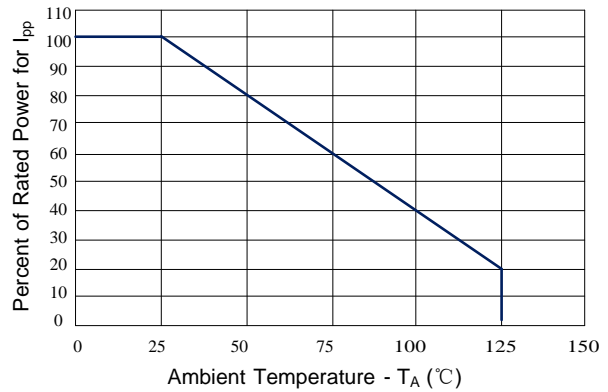
**Figure 3: Clamping Voltage vs. Peak Pulse Current**



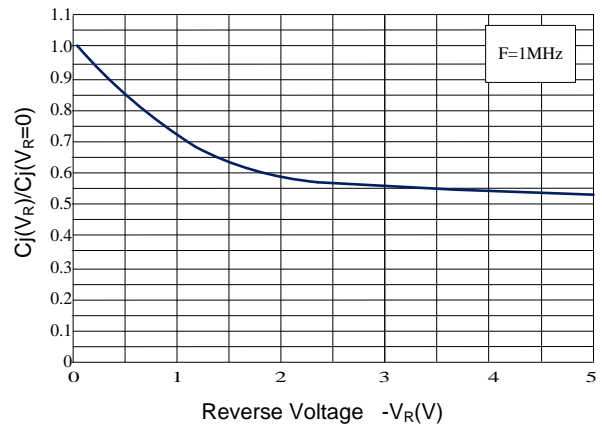
**Figure 5: Pulse Waveform**



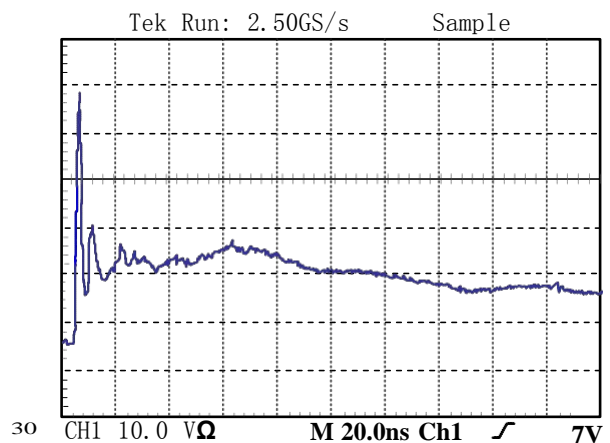
**Figure 2: Power Derating Curve**



**Figure 4: Normalized Junction Capacitance vs. Reverse Voltage**

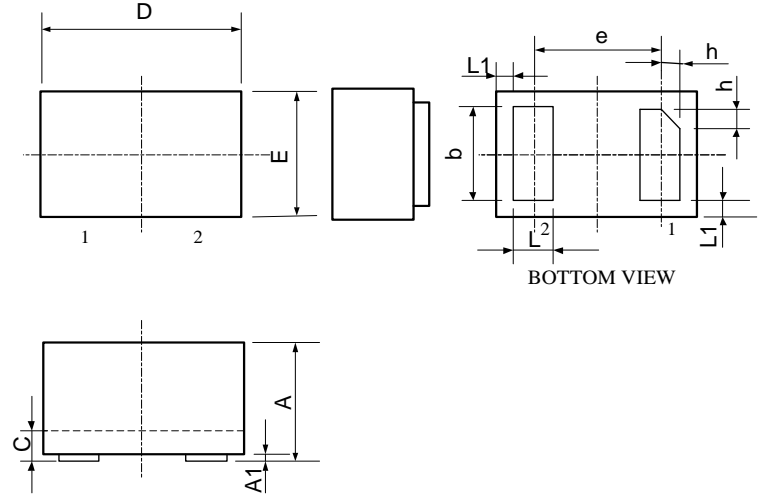


**Figure 6: ESD Clamping (8kV Contact per IEC 61000-4-2)**

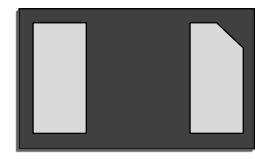


## Outline Drawing – DFN-2L

### PACKAGE OUTLINE



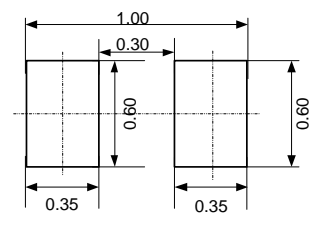
BOTTOM VIEW



**DFN-2L**

SYMB	MILIMETER		
	MIN	NOM	MAX
OL			
A	0.45	0.50	0.55
A1	0	0.02	0.05
b	0.45	0.50	0.55
C	0.12	0.15	0.18
D	0.95	1.00	1.05
e	0.65BSC		
E	0.55	0.60	0.65
L	0.20	0.25	0.30
L1	0.05REF		
h	0.07	0.12	0.17

### Land Pattern



### Marking Codes

Part Number	Marking Code
MDFN2C051V40	M5

### Package Information

Qty: 10k/Reel

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[SA110CA](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#) [SMBJ33CATR](#) [SMBJ8.0A](#) [ESD101-B1-02ELS E6327](#) [ESD105-B1-02EL E6327](#) [ESD112-B1-02EL E6327](#) [ESD119B1W01005E6327XTSA1](#) [ESD5V0L1B02VH6327XTSA1](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-HF](#)  
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