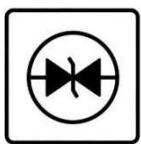




ESD



TVS



TSS



MOV



GDT



PLED

## **NUP4202W1T2G-MS**

### **Product specification**

## Features

- 100Watts peak pulse power (tp = 8/20µs)
- SOT363 package
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low capacitance ( $C_j=0.30\text{pF}$  typ.)
- Protection one data/power line to:
- IEC 61000-4-2  $\pm 12\text{kV}$  contact  $\pm 15\text{kV}$  air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 5A (8/20µs)

## Mechanical Data

- SOT363 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

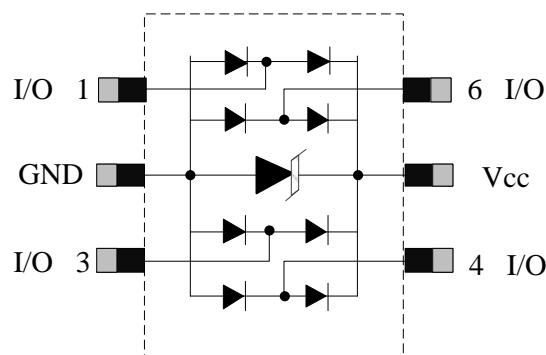
## Applications

- Ethernet
- Digital Visual Interface (DVI)
- USB2.0
- Notebook and PC Computers

## Reference News

SOT-363	Marking
 A photograph of a SOT-363 surface-mount package. It is a black plastic package with three metal leads (one top, two bottom) and a metal tab on top. The package is oriented with the metal tab at the top and the leads pointing downwards. The text "MSKSEMI" and "SEMICONDUCTOR" is printed on the top surface of the package.	 A black rectangular box containing the white text "63*".

## Schematic & PIN Configuration



## Absolute Maximum Rating

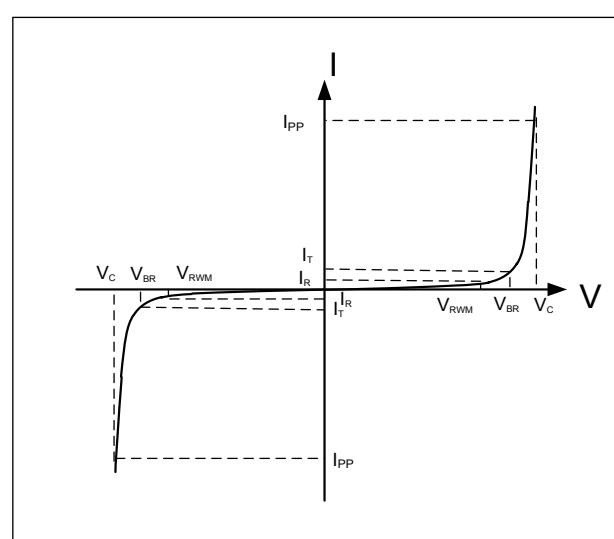
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu\text{s}$ )	$P_{PP}$	100	Watts
Peak Pulse Current ( $t_p = 8/20\mu\text{s}$ ) (note1)	$I_{PP}$	5.0	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	15 12	kV
Lead Soldering Temperature	$T_L$	260(10seconds)	°C
Junction Temperature	$T_J$	-55 to + 125	°C
Storage Temperature	$T_{stg}$	-55 to + 125	°C

## Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{RWM}$				5.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$	6			V
Reverse Leakage Current	$I_R$	$V_{RWM}=5\text{V}, T=25^\circ\text{C}$			1	uA
Peak Pulse Current	$I_{PP}$	$t_p = 8/20\mu\text{s}$			5	A
Clamping Voltage	$V_C$	$I_{PP}=5.0\text{A}, t_p=8/20\mu\text{s}$		12	18	V
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$ IO to IO		0.3	0.45	pF
		$V_R = 0\text{V}, f = 1\text{MHz}$ IO to GND			0.9	

## Electrical Parameters (TA = 25°C unless otherwise noted)

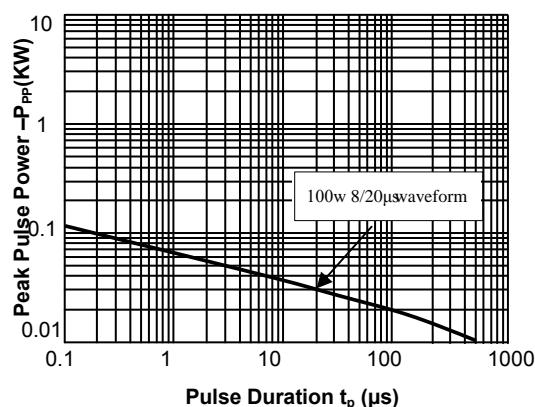
Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current



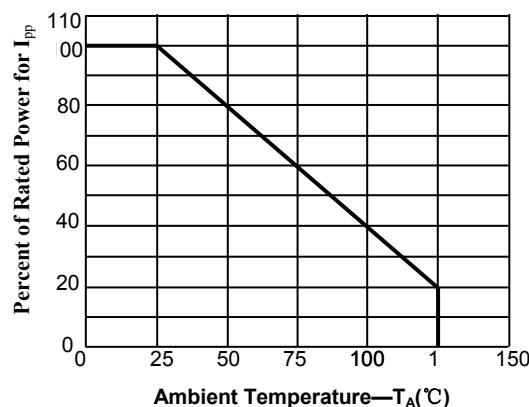
Note: 8/20μs pulse waveform.

## Typical Characteristic Curves

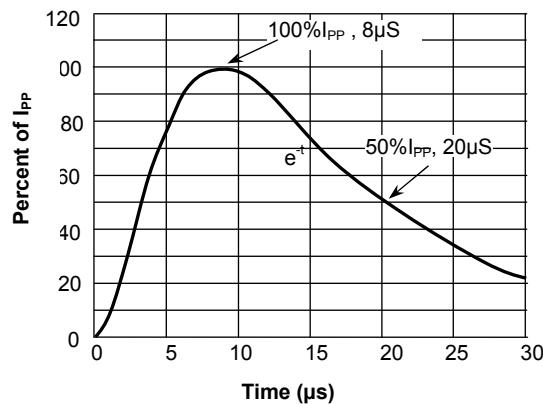
**Fig.1 Peak Pulse Power Rating Curve**



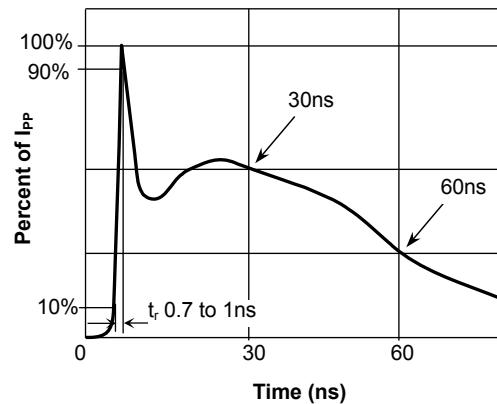
**Fig.2 Pulse Derating Curve**

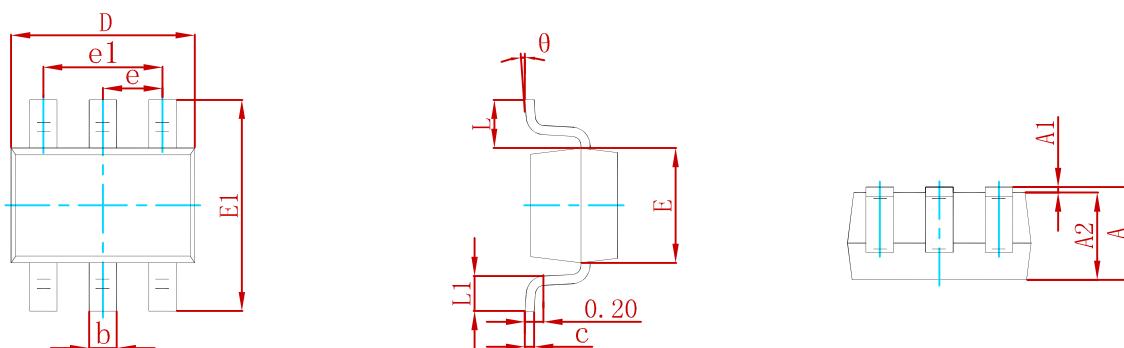


**Fig.3 Pulse Waveform-8/20μs**

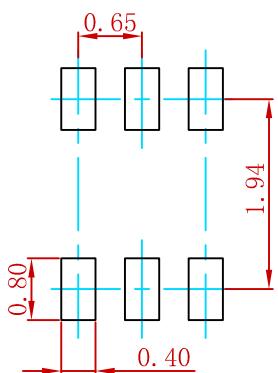


**Fig.4 Pulse Waveform-ESD(IEC61000-4-2)**



**PACKAGE MECHANICAL DATA**


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.100	0.150	0.004	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.400	0.085	0.094
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

**Suggested Pad Layout**


Note:  
 1. Controlling dimension: in millimeters.  
 2. General tolerance:  $\pm 0.05$  mm.  
 3. The pad layout is for reference purposes only.

**Order information**

Orderable Device	Package	Packing Option
NUP4202W1T2G-MS	SOT-363	3000PCS

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