

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

NUP1105LT1G-MS

Product specification

Features

- 350 Watts peak pulse power (tp = 8/20μs)
- Unidirectional and unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 ±20kV contact ±20kV air
- IEC 61000-4-4 (EFT) 40A (5 /50ns)
- IEC 61000-4-5 (Lightning) 8A (8/20μs)

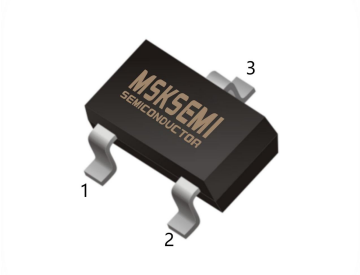
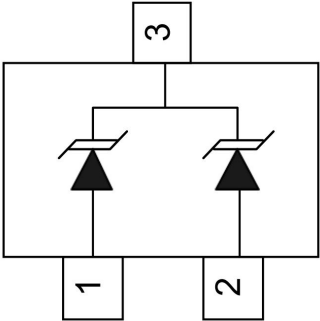

Application

- Dataline
- Automatic Teller Machines
- Net works
- Power line

Mechanical Data

SOT-23 package
Molding compound flammability rating: UL 94V-0
Packaging: Tape and Reel
RoHS/WEEE Compliant

Reference News

PACKAGE OUTLINE	Pin Configuration	Marking
 <p>SOT-23</p>		

Absolute Maximum Rating

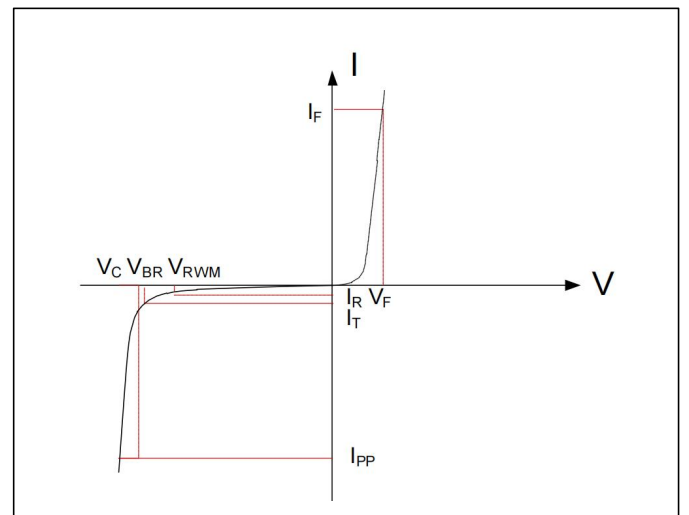
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PP}	350	Watts
Peak Pulse Current ($t_p=8/20\mu s$) (note1)	I_{PP}	8	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	20 20	kV
Lead Soldering Temperature	T_L	260(10seconds)	°C
Junction Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{stg}	-55 to + 125	°C

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}		24		26	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	25			V
Reverse Leakage Current	I_R	$V_{RWM}=24V, T=25C$			1.0	μA
Peak Pulse Current	I_{PP}	$t_p=8/20\mu s$			8	A
Clamping Voltage	V_C	$I_{PP}=8A, t_p=8/20\mu s$		44		V
Junction Capacitance	C_j	$V_R=0V, f=1MHz$ (Pin 1 to Pin 2)		30		pF

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

Symbol	Parameter
PP	Maximum Reverse Peak Pulse Current
C	Clamping Voltage @ I_{PP}
RWM	Working Peak Reverse Voltage
R	Maximum Reverse Leakage Current @ V_{RWM}
BR	Breakdown Voltage @ I_T
T	Test Current



Note: 8/20 μs pulse waveform

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

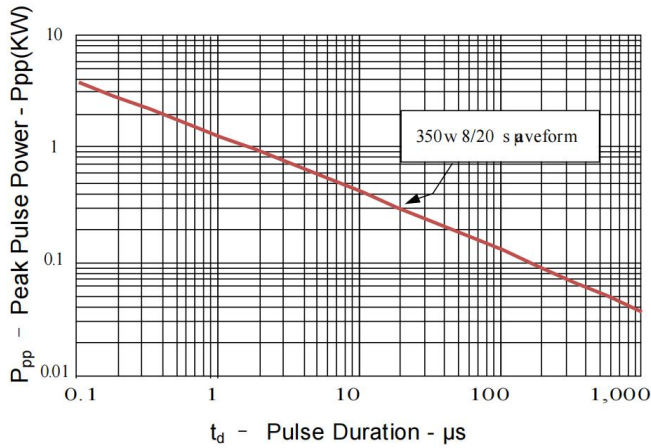


Figure 2: Power Derating Curve

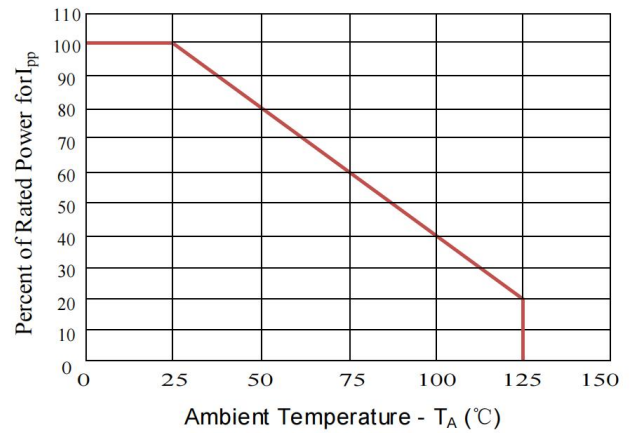


Figure3: Pulse Waveform

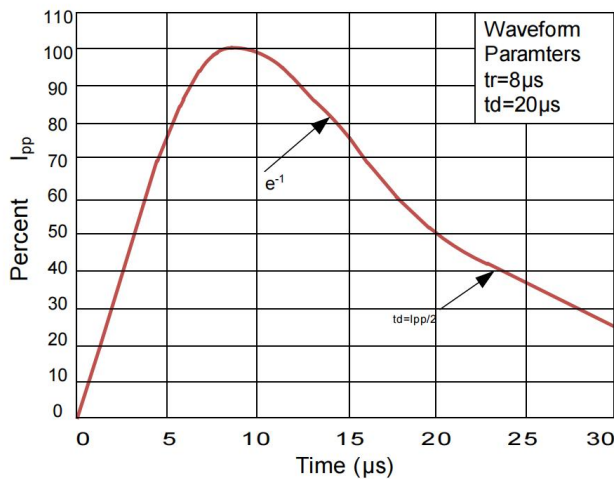


Figure 4: Clamping Voltage vs. Ipp

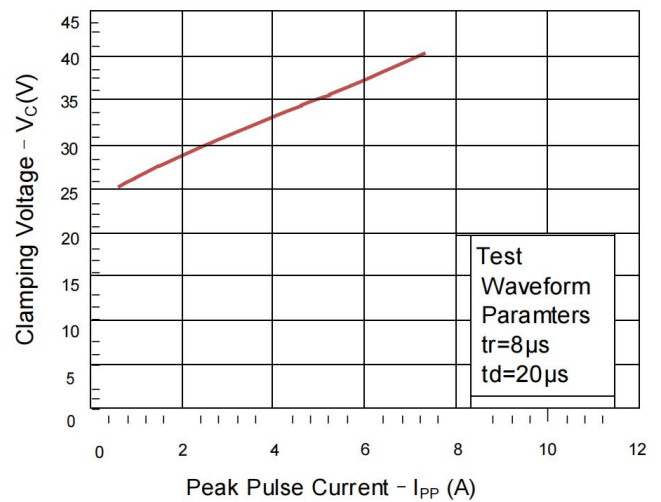
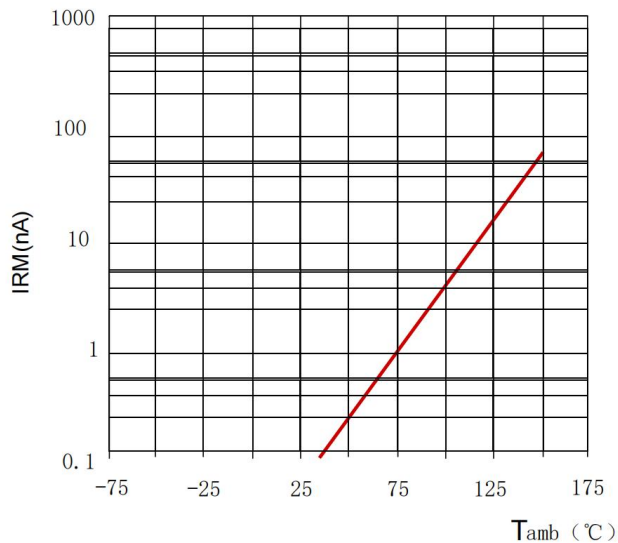
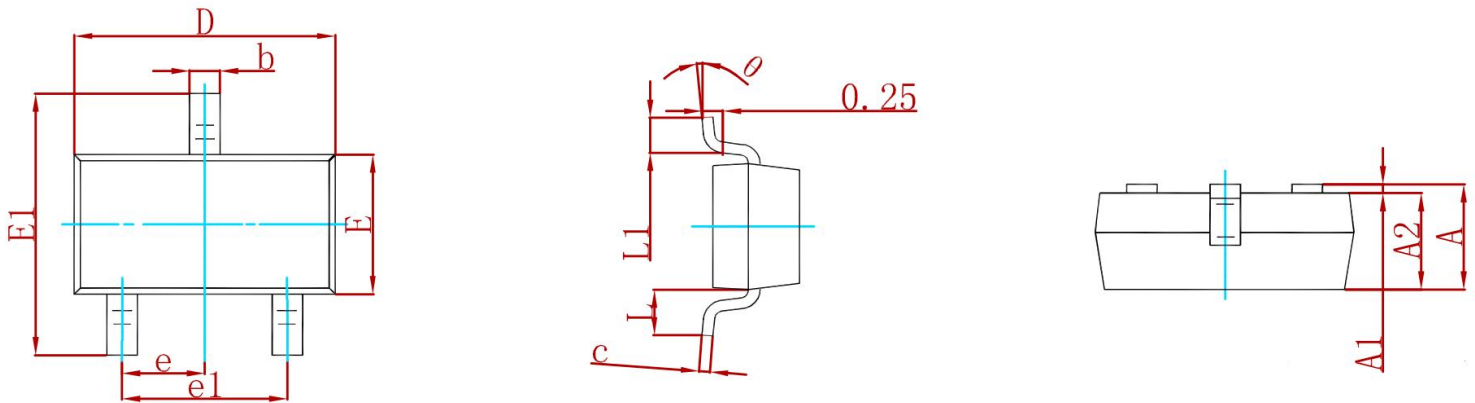


Figure 5: Peak Pulse Power Vs Junction Temperature

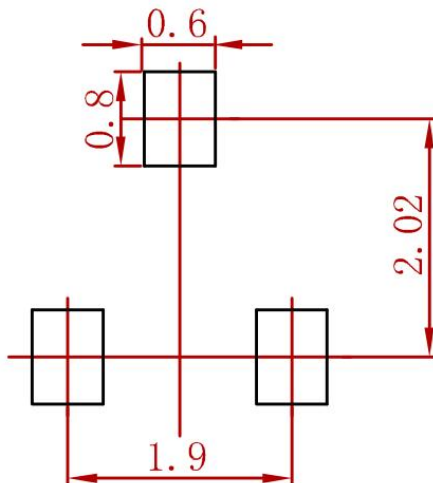


PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:

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

REEL SPECIFICATION

P/N	PKG	QTY
NUP1105LT1G-MS	SOT-23	3000

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