

MSKSEMI

SEMICONDUCTOR



ESD



TVS



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MOV



GDT



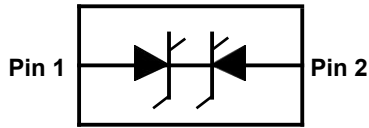
PLED

Product data sheet

www.msksemi.com



DFN1006



Circuit Diagram

Feature

- 150W peak pulse power per line ($t_P = 8/20\mu s$)
- DFN1006
- Replacement for MLV(0402)
- Bidirectional configurations
- Response time is typically $< 1ns$
- Low clamping voltage
- RoHS compliant
- Transient protection for data lines to IEC61000-4-2(ESD) $\pm 30KV(air)$, $\pm 30KV(contact)$; IEC61000-4-4 (EFT) 40A (5/50ns)

Mechanical Characteristics

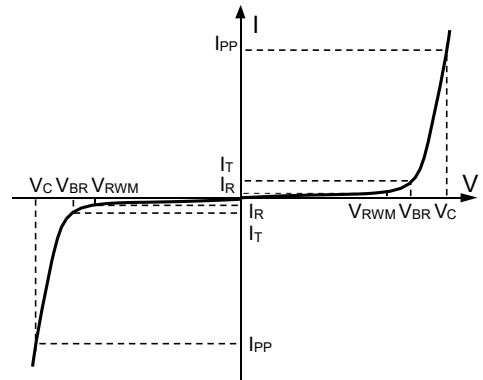
- Mounting position: Any
- Qualified max reflow temperature: 260°C
- Device meets MSL 1 requirements
- DFN1006

Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

Electronics Parameter

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



Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				18	V
Breakdown Voltage	V_{BR}	$I_t = 1mA$	19	22	24	V
Reverse Leakage Current	I_R	$V_{RWM} = 18V$ $T=25^{\circ}C$			0.3	μA
Clamping Voltage	V_C	$I_{PP}=3A$		26.5	29	V
Clamping Voltage	V_C	$I_{PP}=5A$		28.5	31	V
Junction Capacitance	C_j	$V_R=0V$ $f = 1MHz$		22		pF

Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$)	P_{pp}	150	W
Peak Pulse Current ($t_p=8/20\mu s$)	I_{PP}	5	A
Operating Temperature	T_J	-55 to 150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to 150	$^{\circ}C$

Typical Characteristics

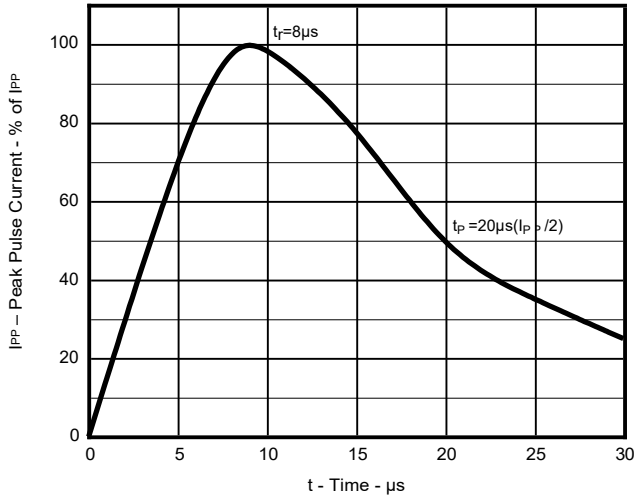


Fig 1. Pulse Waveform(8/20 μ s)

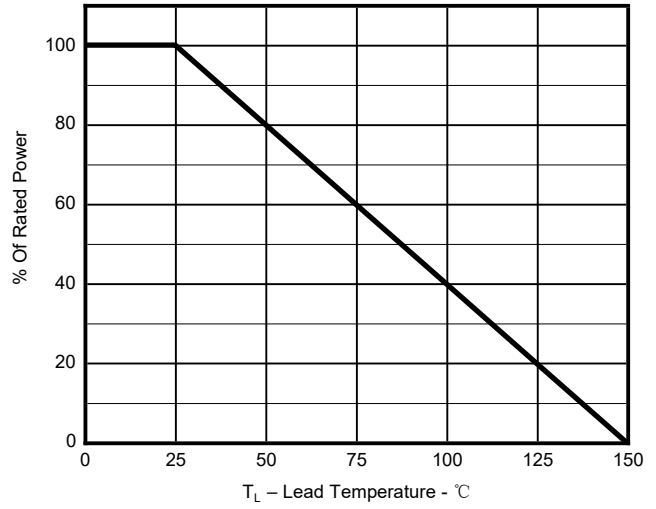


Fig 2. Power Derating Curve

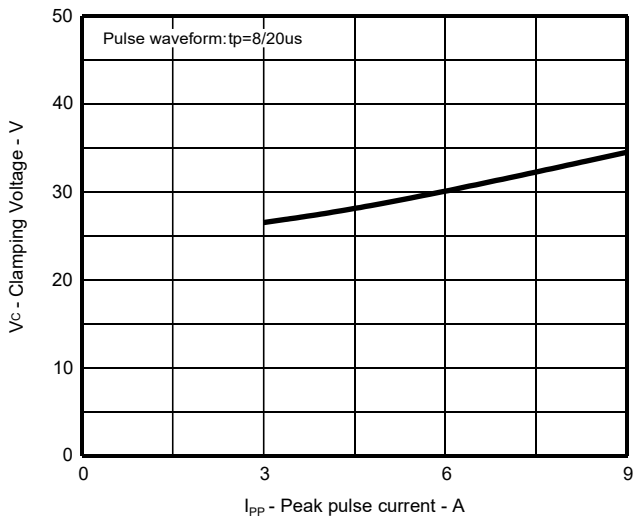


Fig 3. Clamping voltage vs. Peak pulse current

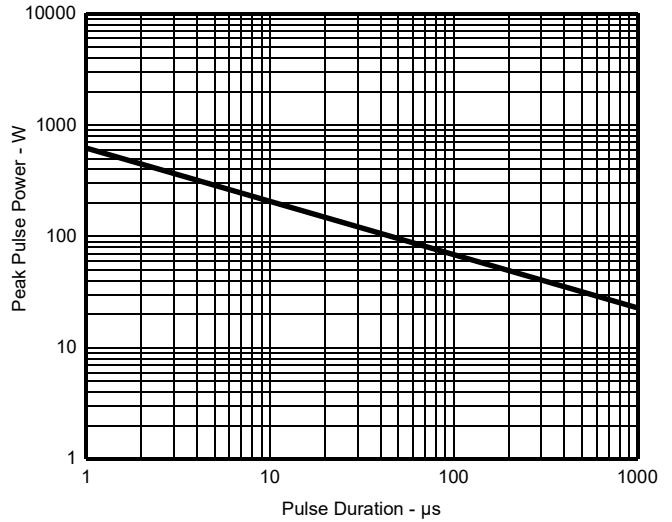


Fig 4. Non Repetitive Peak Pulse Power vs. Pulse time

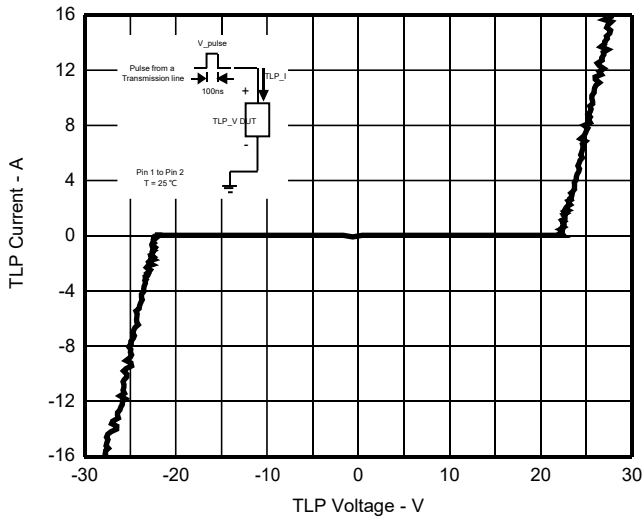
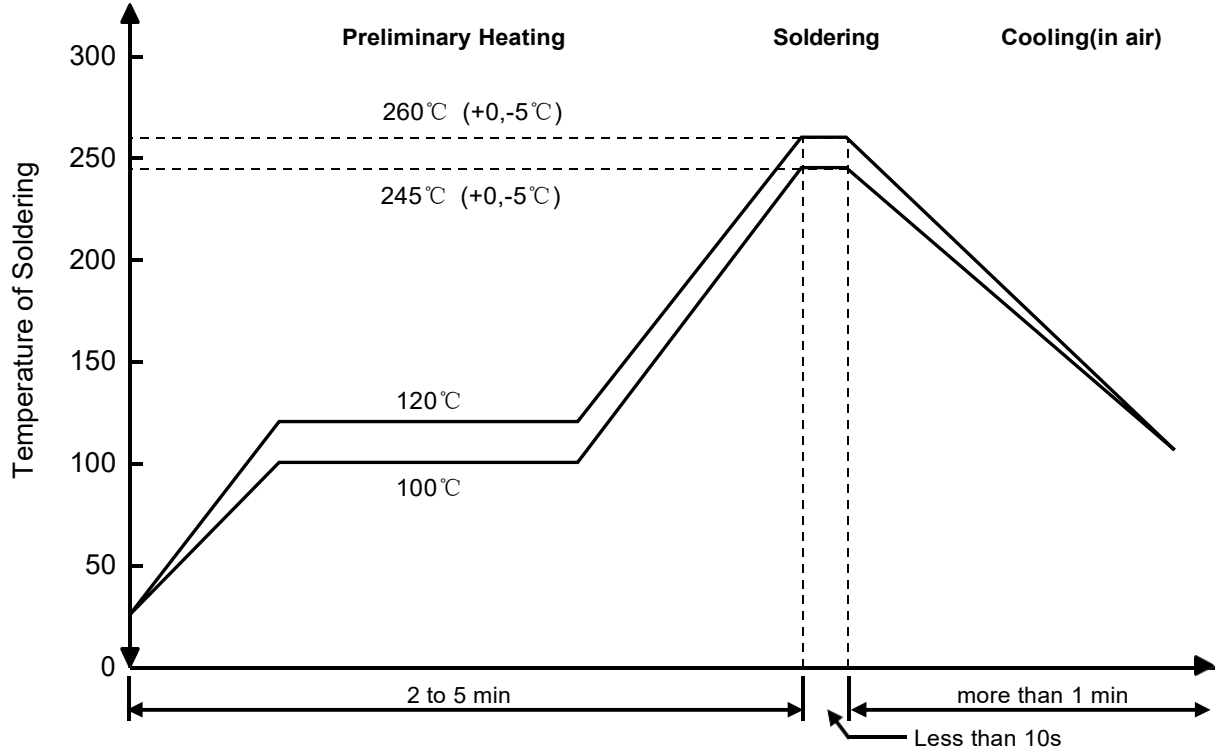


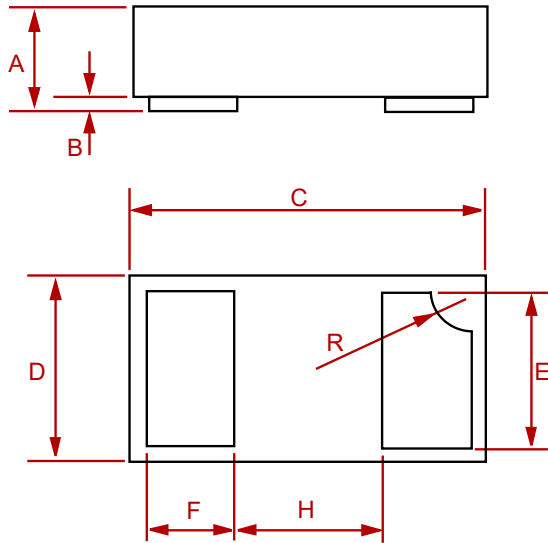
Fig 5. TLP Measurement

Solder Reflow Recommendation



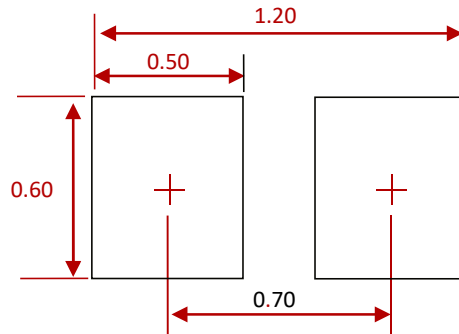
Remark: Pb free for 260°C; Pb for 245°C.

PACKAGE MECHANICAL DATA



Dim	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.0125	0.02	0.32	0.52
B	0.000	0.002	0.00	0.05
C	0.037	0.043	0.95	1.080
D	0.022	0.027	0.55	0.680
E	0.016	0.024	0.40	0.60
F	0.008	0.012	0.20	0.30
H	0.015Typ.		0.40Typ.	
R	0.001	0.005	0.05	0.15

Suggested Pad Layout



NOTES:

1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY. CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.

REEL SPECIFICATION

P/N	PKG	QTY
PESDNC2FD18VB-MS	DFN1006	10000

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