

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV

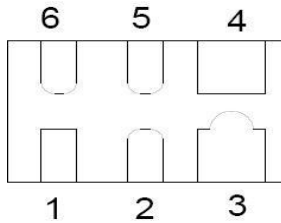
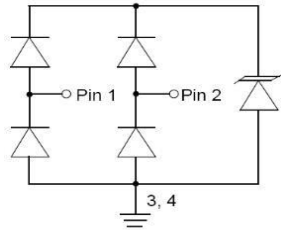


GDT



PLED

Product data sheet



SLP1610P4

## Features

- ◆ 150 Watts peak pulse power ( $t_p = 8/20\mu s$ )
- ◆ Transient protection for high speed data lines to
- ◆ IEC 61000-4-2 (ESD)  $\pm 15kV$  (air),  $\pm 8kV$  (contact)
- ◆ IEC 61000-4-4 (EFT) 40A (5/50ns)
- ◆ Working voltages : 5V
- ◆ Protects One Power or I/O Port
- ◆ Low operating and clamping voltages
- ◆ Solid-state silicon avalanche technology

## Applications

- ◆ Notebooks, Desktops, Servers and Video Graphics Cards
- ◆ USB Power & Data Line Protection
- ◆ Monitors and Flat Panel Displays
- ◆ I<sup>2</sup>C Bus Protection
- ◆ Portable Instrumentation
- ◆ Set Top Box

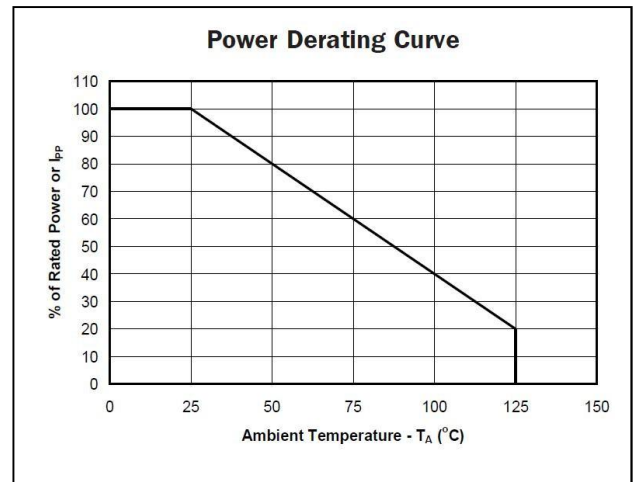
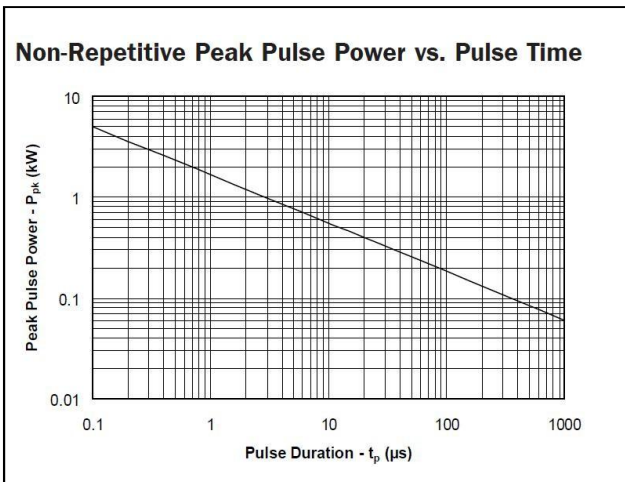
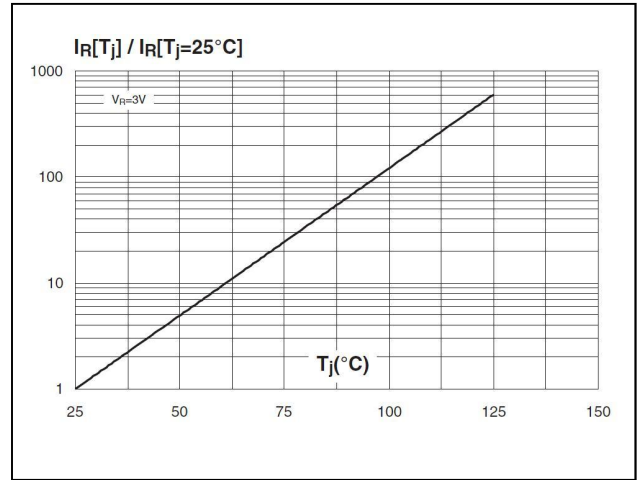
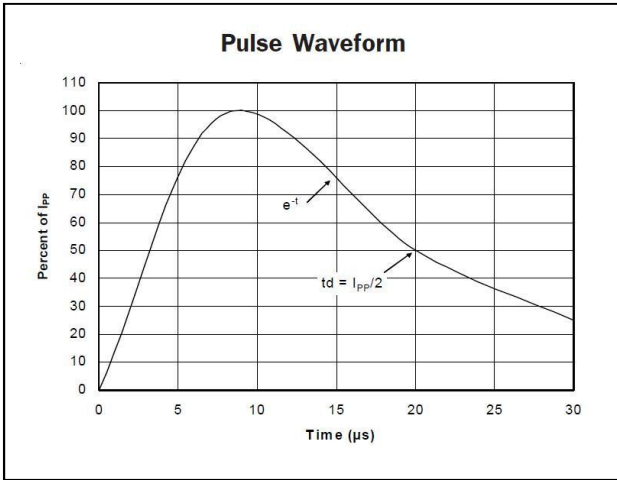
## Electrical Characteristics @ $T_a = 25^\circ C$ unless otherwise

P/N	VRWM @IR		VBR@1mA	Vc@1A	Vc@IPP		CJ
	V	$\mu A$	V	V	V	A	pF
		MAX	MIN	MAX	MAX		TYP
RCLAMP0522P-MS	5	1	5.8	11.8	15	3	0.5

## Maximum Rating @ $T_a = 25^\circ C$ unless otherwise specified

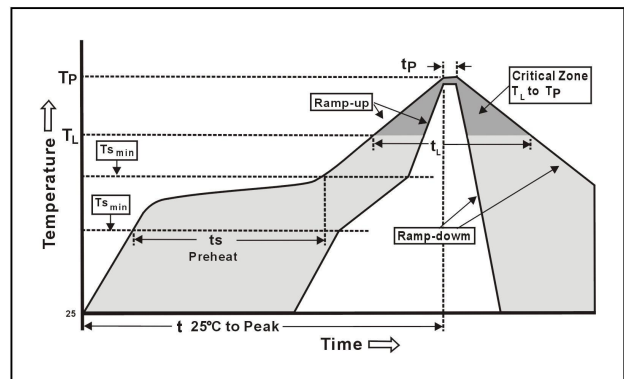
Symbol	Parameter	Ratings	Units
$P_{PK}$	Peak Pulse Power ( $t_p = 8/20\mu s$ )	150	Watts
$T_L$	Lead Soldering Temperature	260(10sec.)	$^\circ C$
$T_J$	Operating Temperature	-55 to +125	$^\circ C$
$T_{STG}$	Storage Temperature	-55 to +150	$^\circ C$

Typical Characteristics@ Ta=25°C unless otherwise specified

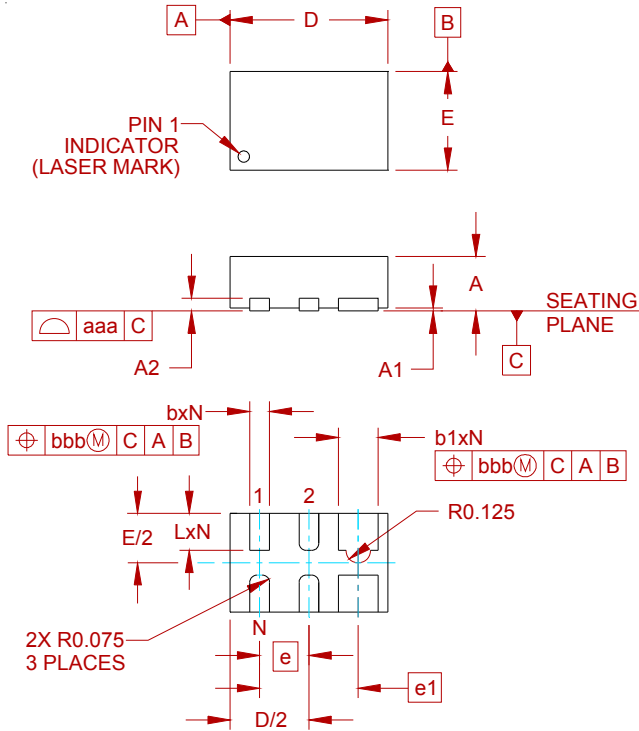


Soldering Parameters

Reflow Condition		Fb – Free assembly
Pre Heat	- Temperature Min ( $T_{s(Min)}$ )	150°C
	- Temperature Max ( $T_{s(Max)}$ )	200°C
	- Time (Min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus) Temp ( $T_L$ ) to peak		3°C/second Max
$T_{s(Max)}$ to $T_L$ - Ramp-up Rate		3°C/second Max
Reflow	- Temperature ( $T_L$ ) (Liquidus)	217°C
	- Temperature ( $t_l$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		250 <sup>+0/-5</sup> °C
Time within 5°C of actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		6°C/second Max
Time 25°C to peak Temperature ( $T_p$ )		8 minutes Max.
Do not exceed		260°C



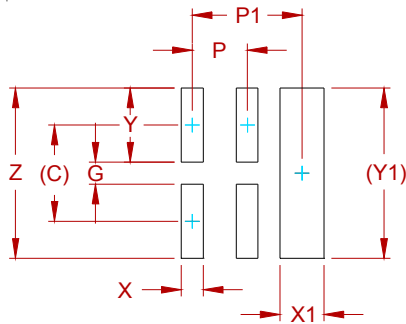
**PACKAGE MECHANICAL DATA**



DIM	INCHES			MILLIMETERS		
	MIN	NOM	MAX	MIN	NOM	MAX
A	.020	.023	.026	0.50	0.58	0.65
A1	0.00	.001	.002	0.00	0.03	0.05
A2		(.005)			(0.13)	
b	.006	.008	.010	0.15	0.20	0.25
b1	.014	.016	.018	0.35	0.40	0.45
D	.059	.063	.067	1.50	1.60	1.70
E	.035	.039	.043	0.90	1.00	1.10
e		.020 BSC			0.50 BSC	
e1		.039 BSC			1.00 BSC	
L	.012	.015	.017	0.30	0.38	0.43
N		4			4	
aaa		.003			0.08	
bbb		.004			0.10	

NOTES:  
1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).

**Suggested Pad Layout**



DIM	DIMENSIONS	
	INCHES	MILLIMETERS
C	(.034)	(0.87)
G	.007	0.19
P	.020	0.50
P1	.039	1.00
X	.008	0.20
X1	.016	0.40
Y	.027	0.68
Y1	(.061)	(1.55)
Z	.061	1.55

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
RCLAMP0522P-MS	SLP1610P4	3000

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