

**DESCRIPTION**

The SESRV05-4B is a dual USB port protection array that features ultra low capacitance. This device can be used in applications such as video cards, SMART phones, Gigabit Ethernet and other computer interfaces. Designed for ESD protection, the SESRV05-4B can clamp the effects of electrical fast transients on the power bus.

The SESRV05-4B combines 9 low capacitance steering diodes for up to four individual data or transmission lines and one TVS diode for power bus protection. This device is available in the space-saving SOT-23-6 package configuration, which minimizes lead inductance to prevent overshoot voltages during high ESD current events. The SESRV05-4B meets the IEC 61000-4-2, 61000-4-2 and 61000-4-5 requirements.

**FEATURES**

- >70 Watts peak pulse power( $t_p=8/20\mu s$ )
- >Protects four I/O lines
- >Low clamping voltage
- >Small package: SOT23-6L
- >Low leakage current

**APPLICATIONS**

- >USB 2.0 Power and Data Line Protection
- >Video Graphics Cards
- >Monitors and Flat Panel Displays
- >Digit Video Interface (DVI)
- >10/100/1000 Ethernet
- >Notebook Computers
- >ATM Interfaces

**IEC COMPATIBILITY**

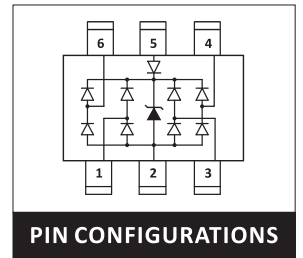
- >IEC 61000-4-2(ESD) $\pm 15KV$ (air), $\pm 8KV$ (contact)
- >IEC61000-4-4 (EFT) 40A (5/50ns)
- >IEC61000-4-5 (Lightning) 5A (8/20 $\mu s$ )

**MAXIMUM RATINGS AND CHARACTERISTICS** Ratings at 25°C ambient temperature unless otherwise specified.

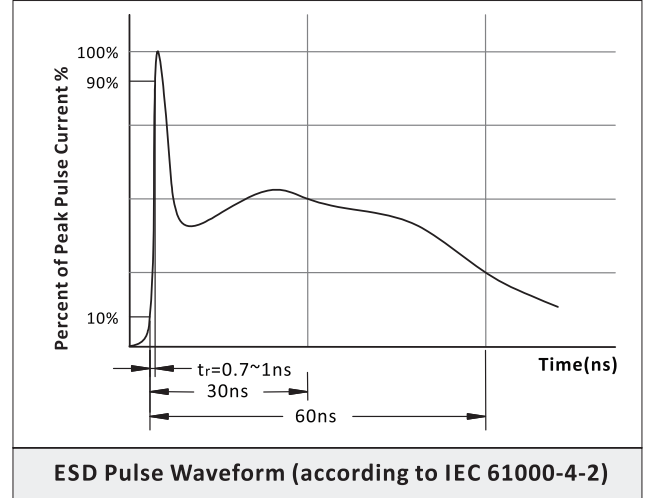
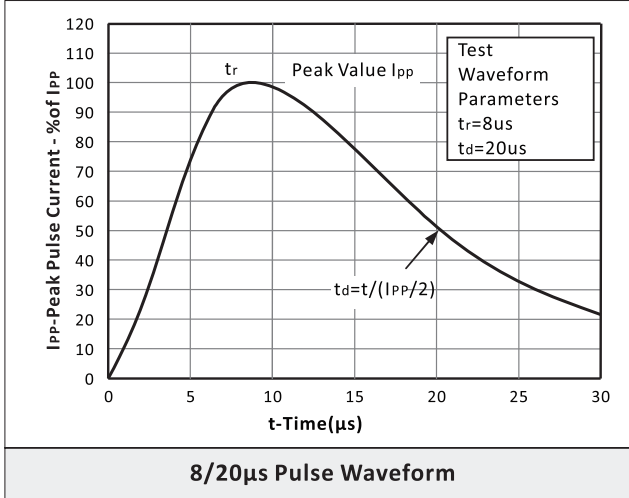
MAXIMUM RATINGS @ 25°C UNLESS OTHERWISE SPECIFIED			
PARAMETER	SYMBOL	VALUE	UNIT
Peak Pulse Power ( $t_p=8/20\mu s$ waveform)	P <sub>PP</sub>	70	Watts
Operating Temperature Range	T <sub>J</sub>	-55~125	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°C

**ELECTRICAL CHARACTERISTICS**

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C UNLESS OTHERWISE SPECIFIED										
PART NUMBER	DEVICE MARKING	V <sub>RWM</sub> (V) Max.	V <sub>B</sub> (V) Min.	I <sub>T</sub> (mA)	V <sub>C</sub> @1A Max.	V <sub>C</sub>		I <sub>R</sub> (uA) Max.	C <sub>T</sub> I/O-GND (pF) Typ.	C <sub>T</sub> I/O-I/O (pF) Typ.
						Max.	@A			
SESRV05-4B	0504A	5.0	6.0	1	11	14	5	1	0.5	0.3

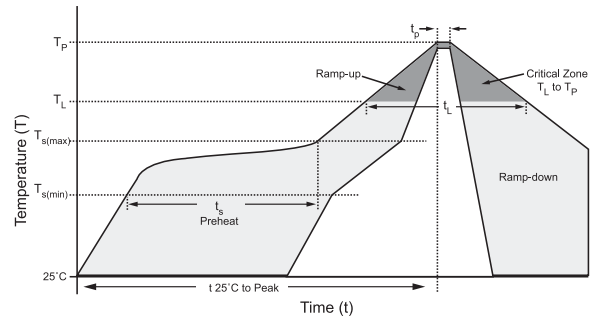


**CHARACTERISTIC CURVES**



**REFLOW PROFILE**

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Min (Ts(min))	150°C
	Temperature Max (Ts(max))	200°C
	Time (min to max) (ts)	60 – 180 secs
Average ramp up rate (Liquidus Temp (TL) to peak)		3°C/second max
Ts(max)to TL - Ramp-up Rate		3°C/second max
Reflow	Temperature (TL) (Liquidus)	217°C
	Time (min to max) (tl)	60 – 150 seconds
Peak Temperature (TP)		260°C
Time within 5°C of actual peak Temperature (tp)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (TP)		8 minutes Max.
Do not exceed		260°C



**SOT-23-6 PACKAGE INFORMATION**

OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.05	0.110	0.120
B	1.50	1.75	0.059	0.070
C	0.90	1.30	0.036	0.051
D	0.30	0.40	0.012	0.016
E	0.85	1.05	0.033	0.040
G	0.90	1.45	0.036	0.057
J	0.09	0.20	0.003	0.008
K	2.60	3.00	0.102	0.118
L	0.0	0.15	0.0	0.006
M	0.30	0.60	0.012	0.024

**RECOMMENDED PAD LAYOUT DIMENSIONS**

PAD LAYOUT DIMENSIONS		
DIM	MILLIMETERS	INCHES
	NOMINAL	NOMINAL
A	0.70	0.028
B	1.90	0.074
C	0.95	0.037
D	2.40	0.094
E	1.00	0.039

**ORDERING INFORMATION**

Part Number	Component Package	QTY/Reel	Reel Size
SESRV05-4B	SOT-23-6	3000PCS	7"

## **CONTACT US**

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