

### **CREATEK Microelectronics**

# Low Capacitance ESD TVS Array in SOT23-6

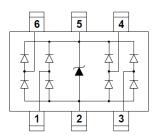
#### **Features**

- 60Watts peak pulse power (tp = 8/20µs)
- SOT23-6 Package
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance (0.2pF typical I/O to I/O)
- ESD Protection for high-speed data lines to: IEC 61000-4-2 ±15KV contact ±15KV air IEC 61000-4-4 (EFT) 40A (5/50ns) IEC 61000-4-5 (Lightning) 5A (8/20µs)



- Case: SOT23-6 (plastic package). Lead free; RoHS compliant
- Molding Compound Flammability Rating: UL 94 V-0
- **Terminals:** High temperature soldering guaranteed: 260 °C/10 sec. at terminals





## **Applications**

- USB 3.0, USB 2.0, MHL
- HDMI 2.0, Display Port 1.3, eSATA
- Unified Display Interface (UDI)
- Digital Visual Interface (DVI)
- High speed serial interfaces

### **Absolute Maximum Ratings**

Ratings at 25 °C, ambient temperature unless otherwise specified

Parameter	Symbol	Value	Unit
Peak Pulse Power (T <sub>P</sub> =8/20µS)	P <sub>PP</sub>	60	W
ESD contact/air discharge (IEC-61000-4-2)	V <sub>ESD</sub>	15/15	kV
Peak Pulse Current ( t₂ = 8/20µS )	I <sub>PP</sub>	5.0	Α
Junction Temperature	TJ	-55 to +125	${\mathbb C}$
Storage temperature	T <sub>STG</sub>	-55 to +150	°C

### **Electrical Characteristics**

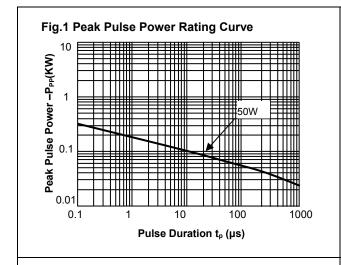
 $(T_A = 25 \, ^{\circ}C \text{ unless otherwise specified})$ 

Parameter	Symbol	Condition	Min	Тур	Max	Unit
Reverse stand-off Voltage	$V_{RWM}$				5	V
Reverse Breakdown Voltage	$V_{BR}$	I <sub>T</sub> =1mA	6	6.8	8.5	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> =5V		0.01	1	μA
Clamping Voltage(SURGE)	V <sub>C</sub>	$I_{PP}=3A$ , $T_{P}=8/20\mu S$		10	12	V
Clamping Voltage(ESD)	V <sub>C</sub>	$V_{ESD} = +8kV$		12		V
Junction Canacitance	CJ	V <sub>R</sub> =0V,f=1MHz, I/O to I/O		0.2	0.3	pF
Junction Capacitance	Сл	V <sub>R</sub> =0V,f=1MHz, I/O to GND		0.4	0.6	pF



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# Typical Characteristics (T<sub>amb</sub> = 25 °C unless otherwise specified)



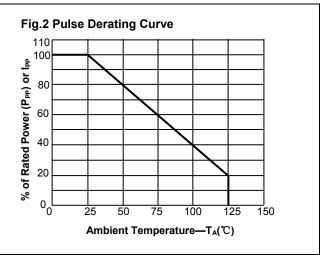
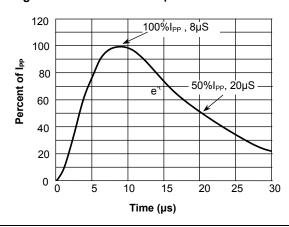


Fig.3 Pulse Waveform-8/20µs



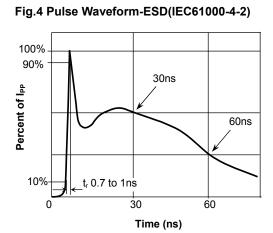


Fig.5 Eye Diagram - HDMI mask at 3.4Gbps per channel

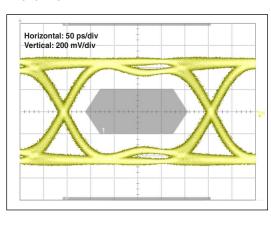
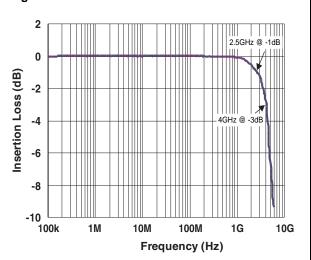


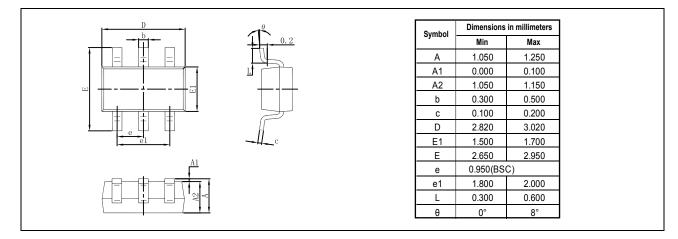
Fig.6 Insertion Loss S21 - I/O to GND



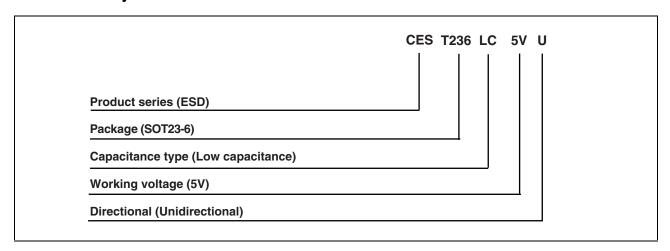


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# **Package Dimensions**



### Part number system



### Marking



# **Ordering information**

Order code	Package	Packaging option	Base quantity	Packaging specification
CEST236LC5VU	SOT23-6	Tape and reel	3000pcs / reel	EIA STD RS-481

### **Revision history**

Date	Revision	Changes
23-May-2012	1.0	Initial release



# CEST236LC5VU

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