



CHENMKO ENTERPRISE CO.,LTD

LOW CAPACITANCE SURFACE MOUNT TVS DIODES

LTVSQ5VESGP

Halogens free devices

APPLICATION

- *PC/Notebook USB2.0/IEEE1394 ports.
- *Video Graphics Cards
- *Notebook and PC Computers
- *Monitors and Flat Panel Displays
- *EEE 1394 Firewire Ports
- *SIM ports

FEATURES

- *Provide ESD protection for each channel to
- *IEC 61000-4-2 (ESD) $\pm 27\text{kV}$ (air), $\pm 17\text{kV}$ (contact)
- *IEC 61000-4-4 (EFT) 60A (5/50ns)
- *IEC 61000-4-5 (Lightning) 10A (8/20ns)
- *Low capacitance : 1.4pF typical

MECHANICAL DATA

Case: JEDEC SC-74/SOT-457 molded plastic

Polarity: See connection diagram

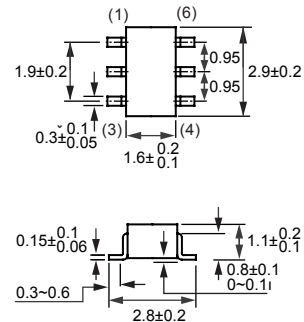
Mounting Position: Anym

MARKING

- * C30

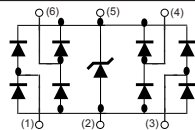


SC-74/SOT-457/SOT-23-6L



Dimensions in millimeters **SC-74/SOT-457/SOT-23-6L**

CIRCUIT



SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS

PARAMETER	PARAMETER	RATING	UNITS
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PP}	10	A
Operating Supply Voltage (VDD-GND)	V_{DC}	6	V
ESD per IEC 61000-4-2 (Air)	V_{ESD}	27	kV
ESD per IEC 61000-4-2 (Contact)		17	
Lead Soldering Temperature	T_{SOL}	260 (10 sec.)	$^{\circ}\text{C}$
Operating Temperature	T_{OP}	-55 to +85	$^{\circ}\text{C}$
Storage Temperature	T_{STO}	-55 to +150	$^{\circ}\text{C}$
DC Voltage at any I/O pin	V_{IO}	(GND - 0.5) to (VDD + 0.5)	V

ELECTRICAL CHARACTERISTICS						
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Reverse Stand-Off Voltage	V_{RWM}	Pin 5 to pin 2, T=25 °C			5	V
Reverse Leakage Current	I_{Leak}	$V_{RWM} = 5V$, T=25 °C, Pin 5 to pin 2			5	μA
Channel Leakage Current	$I_{CH-Leak}$	$V_{Pin5} = 5V$, $V_{Pin2} = 0V$, T=25 °C			1	μA
Reverse Breakdown Voltage	V_{BV}	$I_{BV} = 1mA$, T=25 °C, Pin 5 to Pin 2	6		9	V
Forward Voltage	V_F	$I_F = 15mA$, T=25 °C, Pin 2 to Pin 5		0.8	1.2	V
ESD Clamping Voltage –I/O	V_{clamp_io}	IEC 61000-4-2 +6kV, T=25 °C, Contact mode, Any Channel pin to Ground		11		V
ESD Clamping Voltage –VDD	V_{clamp_VDD}	IEC 61000-4-2 +6kV, T=25 °C, Contact mode, VDD pin to Ground		9		V
ESD Dynamic Turn on Resistance –I/O	$R_{dynamic_io}$	IEC 61000-4-2 0~+6kV, T=25 °C, Contact mode, any Channel pin to Ground		0.15		Ω
ESD Dynamic Turn on Resistance –VDD	$R_{dynamic_VDD}$	IEC 61000-4-2 0~+6kV, T=25 °C, Contact mode, VDD pin to Ground		0.05		Ω
Lightning Clamping Voltage	$V_{lightning_io}$	$I_{pp}=5A$, $tp=8/20\mu s$, T=25 °C Any Channel pin to Ground		7.5		V
Lightning Clamping Voltage	$V_{lightning_VDD}$	$I_{pp}=5A$, $tp=8/20\mu s$, T=25 °C VDD pin to Ground		6		V
Channel Input Capacitance -1	C_{IN-1}	$V_{pin5}=5V$, $V_{pin2}=0V$, $V_{IN}=2.5V$, f =1MHz, T=25 °C, Any Channel pin to Ground		1.4	1.8	pF
Channel Input Capacitance - 2	C_{IN-2}	$V_{pin5}=floated$, $V_{pin2}=0V$, $V_{IN}=2.5V$, f=1MHz, T=25 °C, Any Channel pin to Ground		1.8	2.3	pF
Channel to Channel Input Capacitance -1	$C_{CROSS-1}$	$V_{pin5}=5V$, $V_{pin2}=0V$, $V_{IN}=2.5V$, f =1MHz, T=25 °C , Between Channel pins		0.15	0.2	pF
Channel to Channel Input Capacitance -2	$C_{CROSS-2}$	$V_{pin5}=floated$, $V_{pin2}=0V$, $V_{IN}=2.5V$, f =1MHz, T=25 °C, Between Channel pins		0.25	0.35	pF
Variation of Channel Input Capacitance -1	ΔC_{IN-1}	$V_{pin5}=5V$, $V_{pin2}=0V$, $V_{IN}=2.5V$, f =1MHz, T=25 °C , Channel_x pin to Ground - Channel_y pin to Ground		0.08	0.1	pF
Variation of Channel Input Capacitance -2	ΔC_{IN-2}	$V_{pin5}=floated$, $V_{pin2}=0V$, $V_{IN}=2.5V$, f =1MHz, T=25 °C , Channel_x pin to Ground - Channel_y pin to Ground		0.06	0.08	pF

RATING CHARACTERISTIC CURVES (LTVSQ5VESGP)

Typical Characteristics

