



CHENMKO ENTERPRISE CO.,LTD

LOW CAPACITANCE SURFACE MOUNT TVS DIODES

LTVSQ5VESGP-A

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

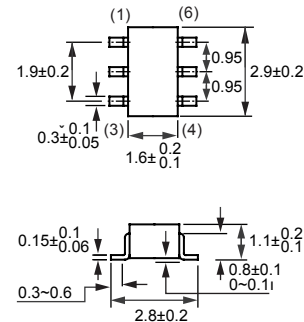
Mounting Position: Anym

MARKING

- * C30

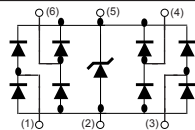


SC-74/SOT-457/SOT-23-6L



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

CIRCUIT



SPECIFICATIONS

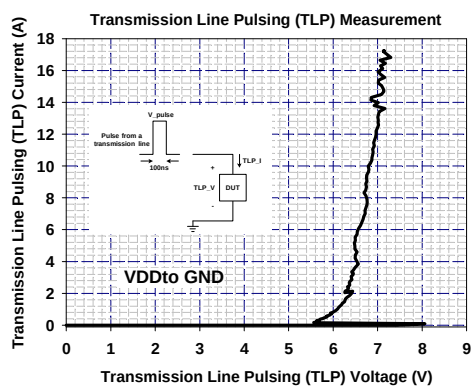
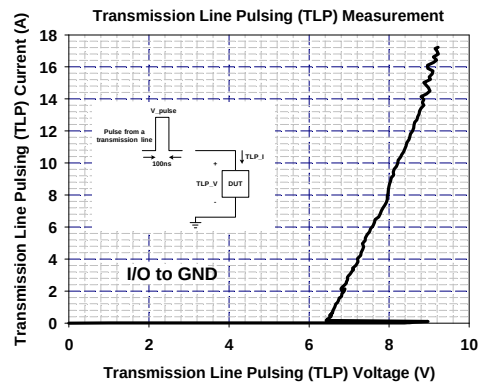
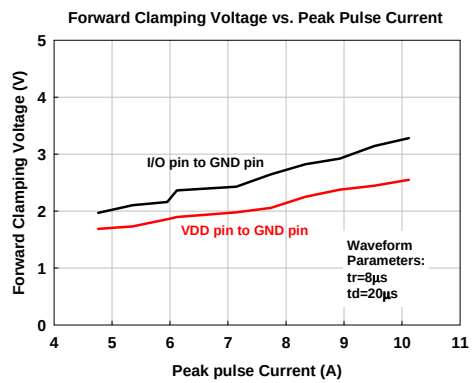
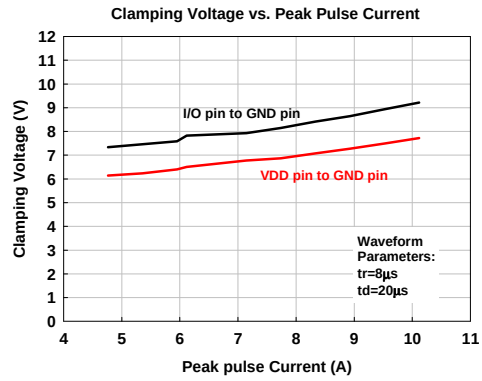
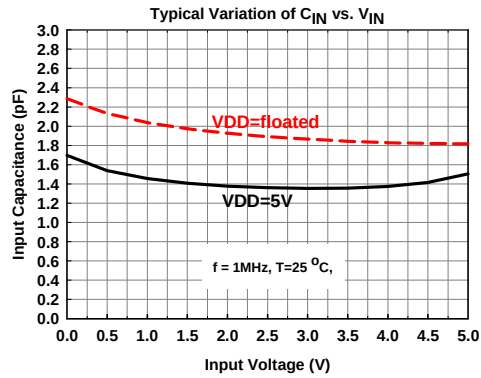
ABSOLUTE MAXIMUM RATINGS

PARAMETER	PARAMETER	RATING	UNITS
Peak Pulse Current (tp =8/20μs)	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.)	°C
Operating Temperature	T _{OP}	-55 to +85	°C
Storage Temperature	T _{STO}	-55 to +150	°C
DC Voltage at any I/O pin	V _{IO}	(GND – 0.5) to (VDD + 0.5)	V

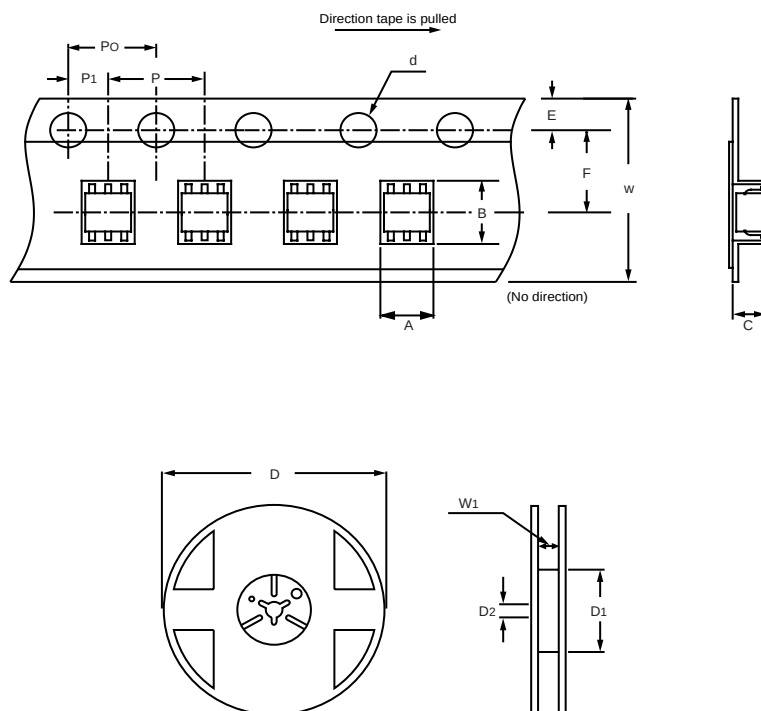
ELECTRICAL CHARACTERISTICS						
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Reverse Stand-Off Voltage	V_{RWM}	Pin 5 to pin 2, T=25 °C			5	V
Reverse Leakage Current	I_{Leak}	$V_{RWM} = 5V$, T=25 °C, Pin 5 to pin 2			5	μA
Channel Leakage Current	$I_{CH-Leak}$	$V_{Pin5} = 5V$, $V_{Pin2} = 0V$, T=25 °C			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	$V_{lightning_io}$	$I_{pp}=5A$, $t_p=8/20\mu s$, T=25 °C Any Channel pin to Ground		7.5		V
Lightning Clamping Voltage	$V_{lightning_VDD}$	$I_{pp}=5A$, $t_p=8/20\mu s$, 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-A)

Typical Characteristics



REEL TAPING SPECIFICATIONS FOR SURFACE MOUNT DEVICES - SC-74/SOT-457



ITEM	SYMBOL	SPECIFICATIONS (mm)	SPECIFICATIONS (inch)
Carrier width	A	3.1±0.1	0.122±0.004
Carrier length	B	3.2±0.1	0.126±0.004
Carrier depth	C	1.35±0.1	0.053±0.004
Sprocket hole	d	1.5 +0.1/-0	0.059 + 0.004
Reel outside diameter	D	180 + 0/-3	7.083 + 0/-0.118
Reel inner diameter	D1	60 + 1/-0	2.361 + 0.039/-0
Feed hole diameter	D2	13±0.2	0.512±0.008
Sprocket hole position	E	1.75±0.1	0.069±0.004
Punch hole position	F	3.5±0.05	0.138±0.002
Punch hole pitch	P	4.0±0.1	0.157±0.004
Sprocket hole pitch	P0	4.0±0.1	0.157±0.004
Embossment center	P1	2.0±0.05	0.079±0.002
Tape width	W	8.0±0.2	0.315±0.008
Reel width	W1	9.0±0.3	0.354±0.012

NOTE: Available on 7 inch (3,000 c.t.) or 13 inch (10,000 c.t.) diameter reels.



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SURFACE MOUNT

RECOMMENDED FOOT PRINT

all dimensions in mm

SC-74

SC-74/SOT-457

