

## Features

- 45Watts peak pulse power ( $t_p = 8/20\mu s$ )
- SOT23-6 package
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ( $C_j = 0.2pF$  typ. IO to IO)
- Protection one data/power line to:
- IEC 61000-4-2  $\pm 12kV$  contact  $\pm 15kV$  air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 3.8A (8/20 $\mu s$ )



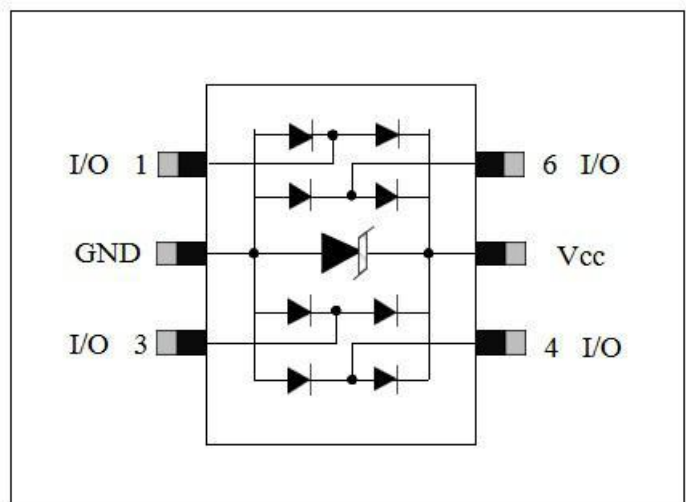
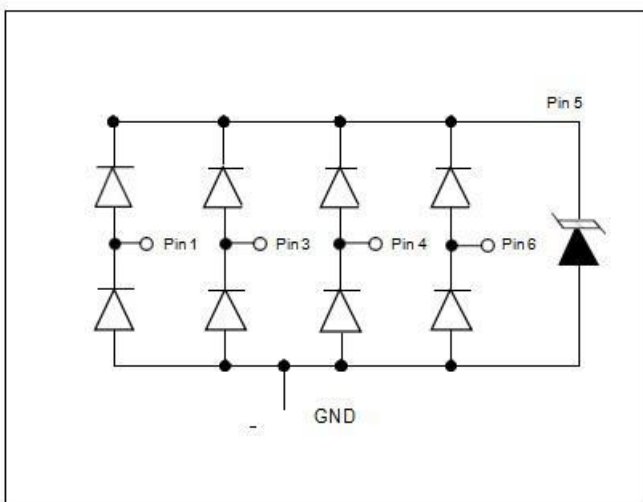
## Applications

- Ethernet
- Digital Visual Interface (DVI)
- USB2.0
- Notebook and PC Computers

## Mechanical Data

- SOT23-6 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

## Schematic & PIN Configuration



# ESDT6L23A5V04R

## Absolute Maximum Rating

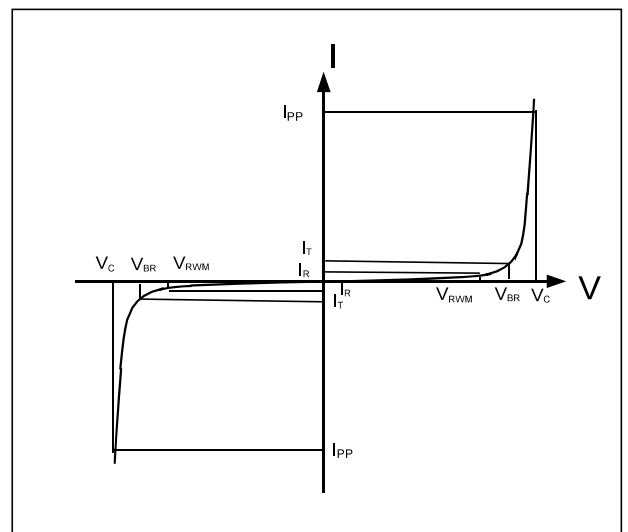
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ )	$P_{PP}$	45	Watts
Peak Pulse Current ( $t_p = 8/20\mu s$ ) (note1)	$I_{PP}$	3.8	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	15 12	kV
Lead Soldering Temperature	$T_L$	260(10seconds)	$^{\circ}C$
Junction Temperature	$T_J$	-55 to + 125	$^{\circ}C$
Storage Temperature	$T_{stg}$	-55 to + 125	$^{\circ}C$

## Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{RWM}$				5.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1mA$	6	7.2	8.5	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5V, T = 25^{\circ}C$		50	500	nA
Peak Pulse Current	$I_{PP}$	$t_p = 8/20\mu s$			6	A
Clamping Voltage	$V_C$	$I_{PP} = 3.8A, t_p = 8/20\mu s$		10	12	V
Junction Capacitance	$C_j$	$V_R = 0V, f = 1MHz$ IO to IO		0.2	0.25	pF
		$V_R = 0V, f = 1MHz$ IO to GND		0.36	0.4	

## Electrical Parameters (TA = 25°C unless otherwise noted)

Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current



Note: 8/20 $\mu s$  pulse waveform.

## Typical Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

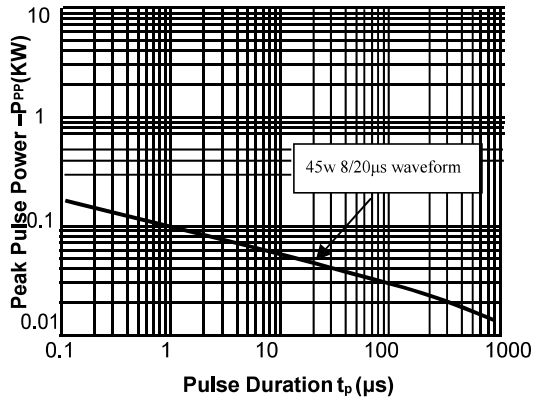


Fig.2 Pulse Derating Curve

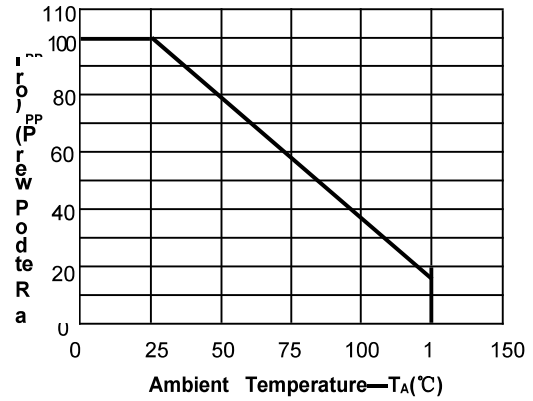


Fig.3 Pulse Waveform-8/20μs

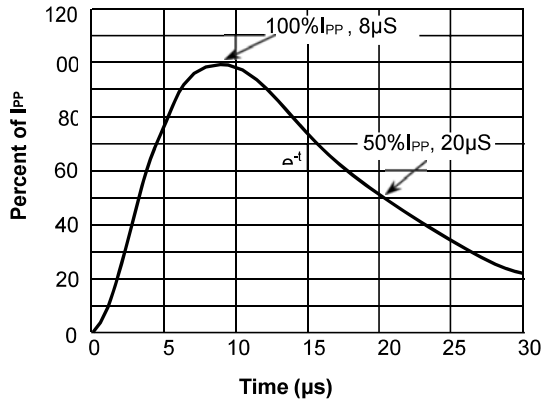


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

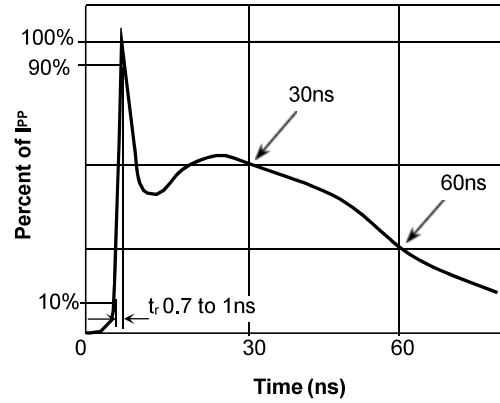


Fig.5 Eye Diagram - HDMI mask at 3.4Gbps per channel

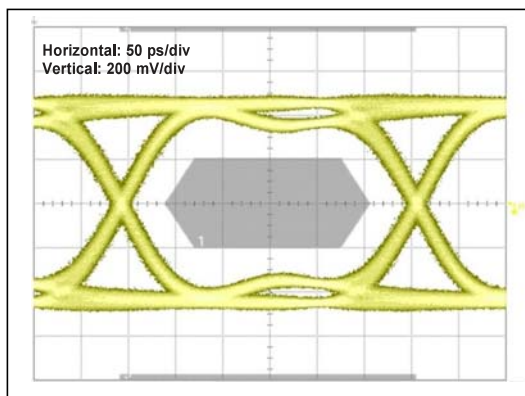
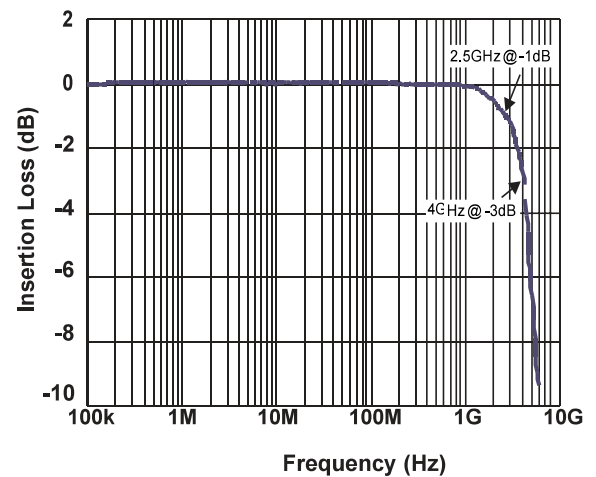


Fig.6 Insertion Loss S21 - I/O to GND

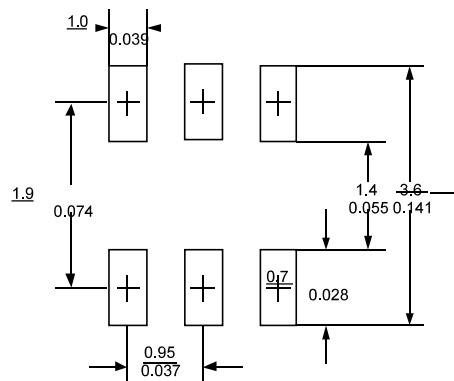


# ESDT6L23A5V04R

## Outline Drawing – SOT23-6

**PACKAGE OUTLINE**

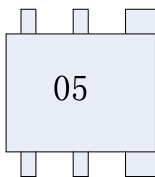
SYMBOL	INCHES		MILLIMETER	
	MIN	MAX	MIN	MAX
A	0.041	0.049	1.050	1.250
A1	0.000	0.004	0.000	0.100
A2	0.041	0.045	1.050	1.150
D	0.111	0.119	2.820	3.020
E	0.059	0.067	1.500	1.700
E1	0.104	0.116	2.650	2.950
b	0.012	0.020	0.300	0.500
e	0.037(BSC)		0.950(BSC)	
e1	0.071	0.079	1.800	2.000
L	0.012	0.024	0.300	0.600
θ	0°	8°	0°	8°



**Notes**

- This land pattern is for reference purposes only consult your manufacturing group to ensure your company's manufacturing guidelines are met. Reference ipc-sm-782a..

## Marking



## Ordering information

Order code	Package	Base qty	Delivery mode
ESDT6L23A5V04R	SOT23-6	3k	Tape and reel