

**ESD PROTECTION DEVICE**

STAND-OFF VOLTAGE - **5.0** Volts  
POWER DISSIPATION - **60** WATTS

**GENERAL DESCRIPTION**

The L06ESDU5V0CE2 is ultra low capacitance TVS arrays designed to protect high speed data interfaces. This series has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (Cable Discharge Events), and EFT (electrical fast transients).

**FEATURES**

- Protects one data or I/O line
- Low capacitance
- Low clamping voltage
- IEC 61000-4-2, level 4
- IEC 61000-4-2 ( ESD ), > ±20KV ( air ) ; > ±11KV ( contact )

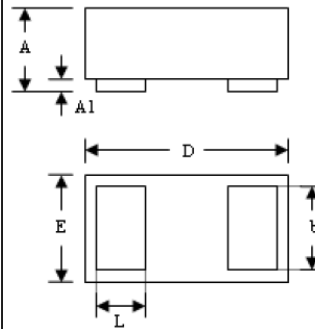
**APPLICATION**

- Cellular Handsets & Accessories
- Digital Visual Interface (DVI)
- RF Circuits
- Display Port
- USB Ports
- MDDI Ports
- PCI Express

**MECHANICAL DATA**

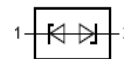
- Case Material: "Green" molding compound UL flammability classification 94V-0 (No Br.Sb, Cl)
- Terminals: Lead Free Plating (Matte Tin Finish)
- Component in accordance to RoHs 2002/95/E

**SOD-882**



SOD-882		
DIM.	MIN.	MAX.
A	0.47	0.53
A1	0.00	0.05
b	0.25	0.55
D	0.95	1.075
E	0.55	0.675
L	0.20	0.45

All Dimensions in millimeter



Schematic diagram (Top view)

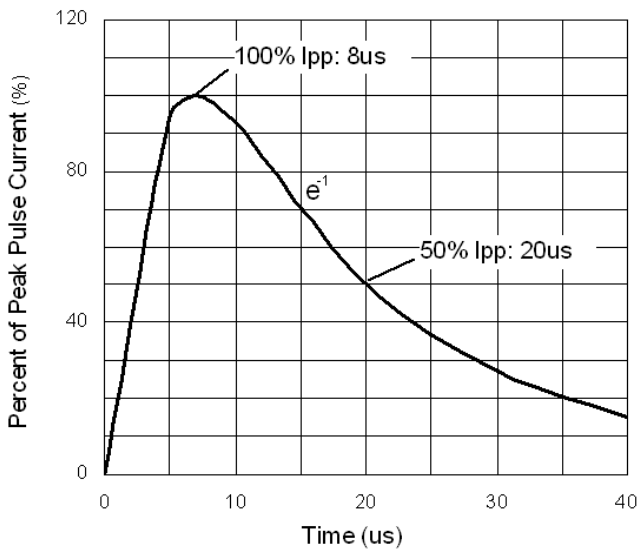
PIN ASSIGNMENT	
1	Cathode
2	Cathode

**MAXIMUM RATINGS (Tj= 25°C unless otherwise noticed)**

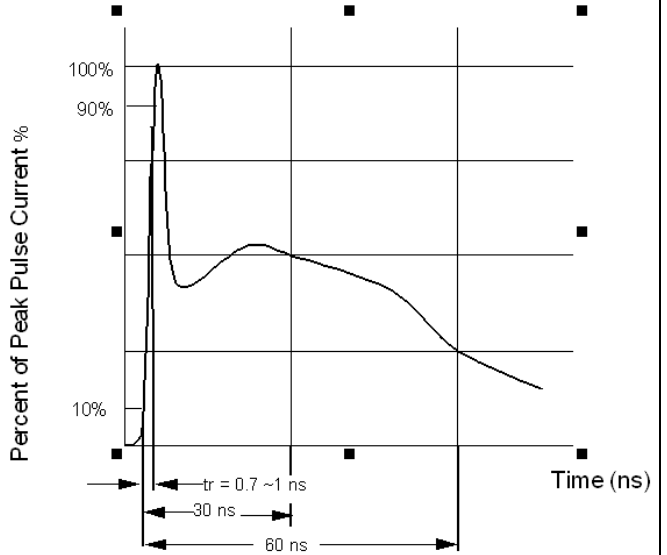
Rating	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20us)	P <sub>pk</sub>	60 (Max)	W
Peak Pulse Current (tp = 8/20us)	I <sub>pp</sub>	2.5	A
Operating Junction Temperature Range	T <sub>J</sub>	-55 to + 125	°C
Storage Temperature Range	T <sub>stg</sub>	-55 to + 150	°C
Soldering Temperature, t max = 10s	T <sub>L</sub>	260	°C

**ELECTRICAL CHARACTERISTICS (Tj= 25°C unless otherwise noticed)**

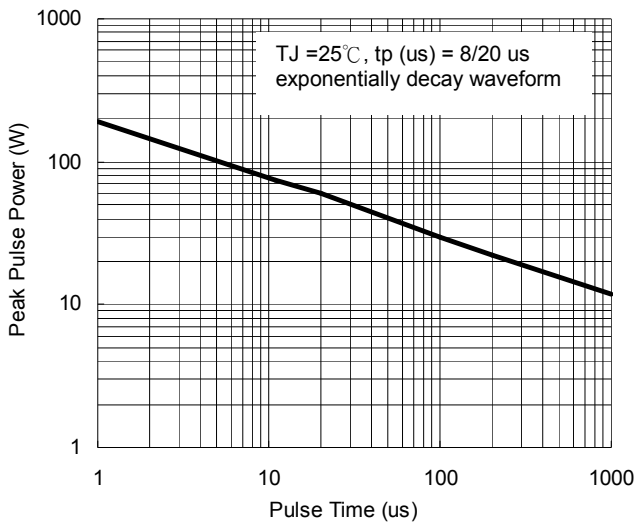
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse standoff voltage	V <sub>RWM</sub>		---	---	5.0	V
Breakdown voltage	V <sub>BR</sub>	I <sub>R</sub> = 1 mA	6.0	---		V
Reverse leakage current	I <sub>RM</sub>	V <sub>DRM</sub> = 5V	---	---	1	uA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 1A, tp = 8/20μs			14	V
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> = 2.5A, tp = 8/20μs			25	V
Junction capacitance	C <sub>J</sub>	V <sub>R</sub> = 0V, f = 1MHz, Between I/O pins		0.3	0.5	pF



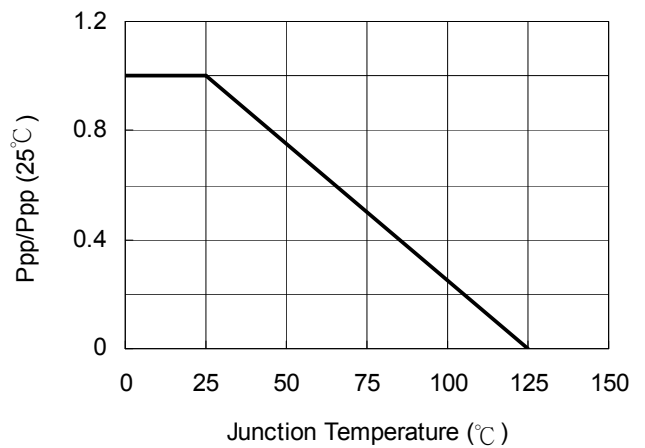
**Figure 1. 8/20 us pulse waveform according to IEC 61000-4-5**



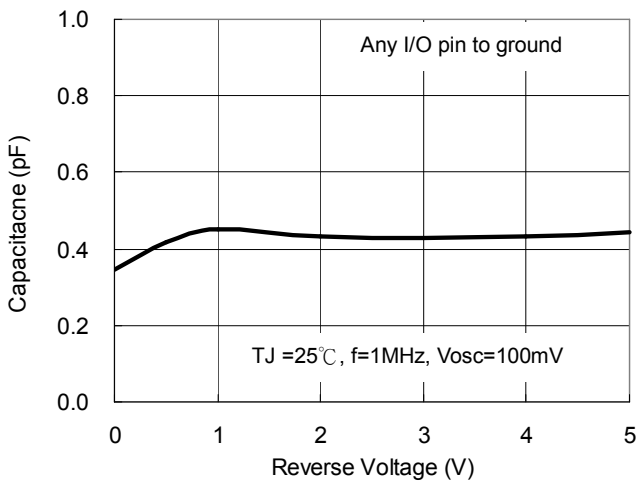
**Figure 2. ESD pulse waveform according to IEC 61000-4-2**



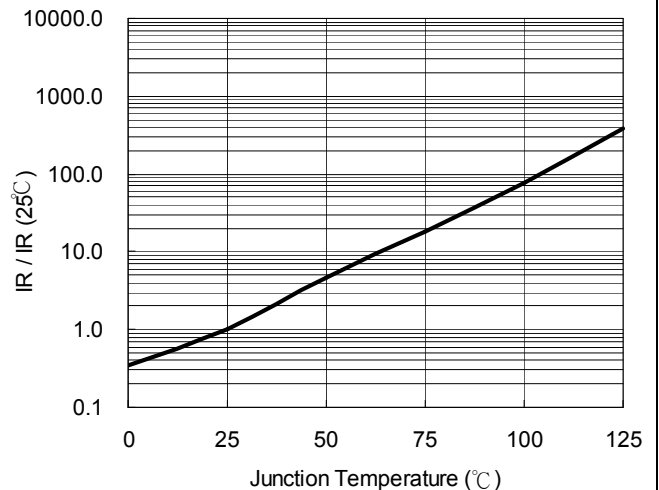
**Figure 3. Power Dissipation versus Pulse Time**



**Figure 4. Peak pulse power versus TJ**



**Figure 5. Typical Junction Capacitance**



**Figure 6. Reverse Leakage Current versus TJ**

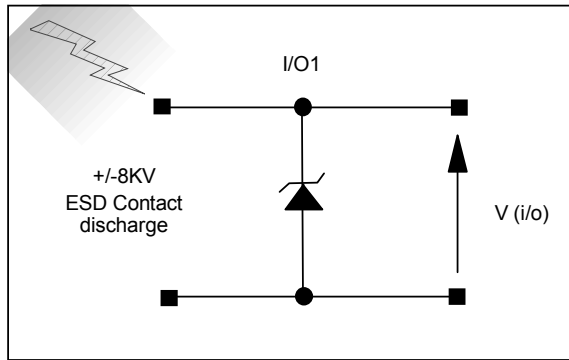


Figure 7. ESD Test Configuration

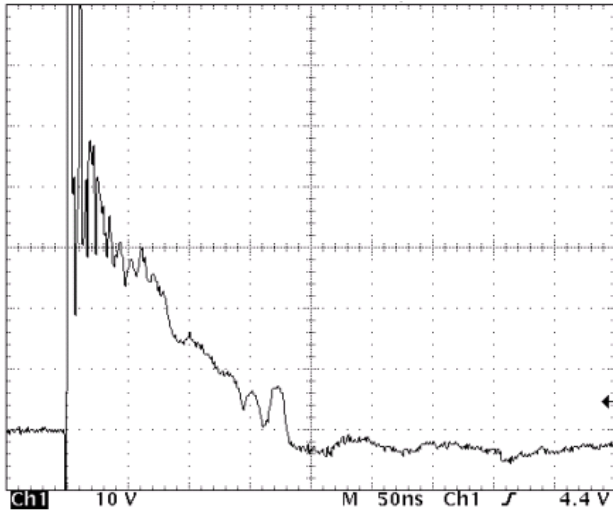


Figure 8. Clamped +8 kV ESD voltage waveform

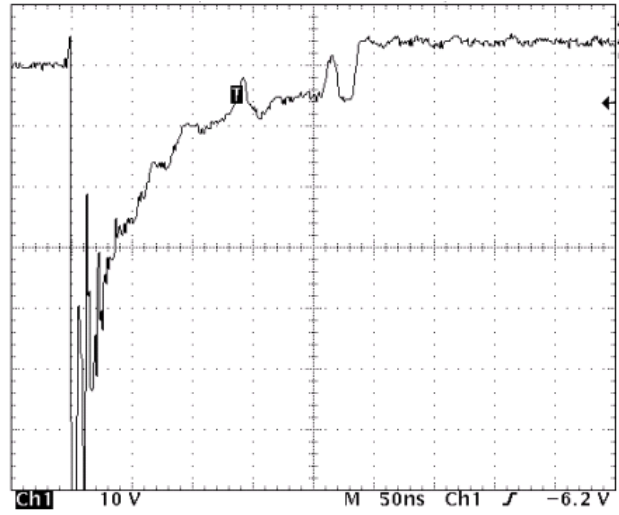


Figure 9. Clamped -8 kV ESD voltage waveform

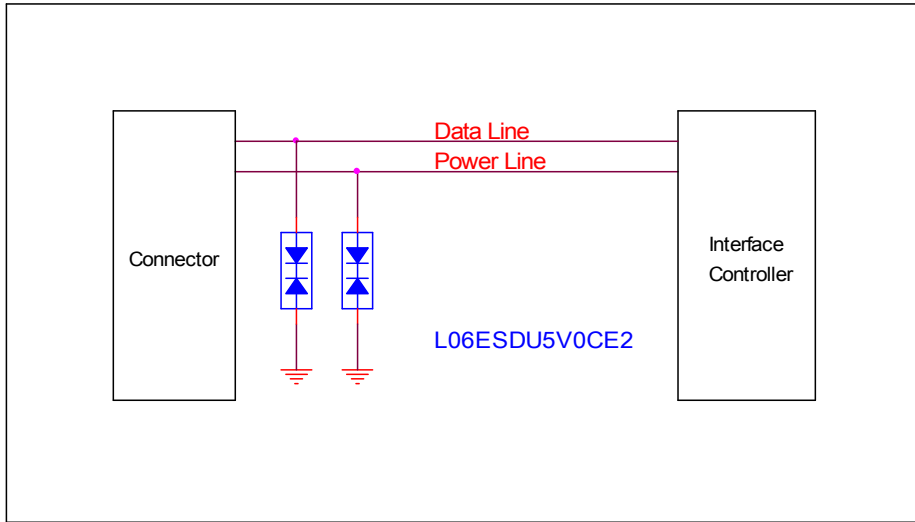


Figure 10. Cellular Handsets & Accessories ESD Protection

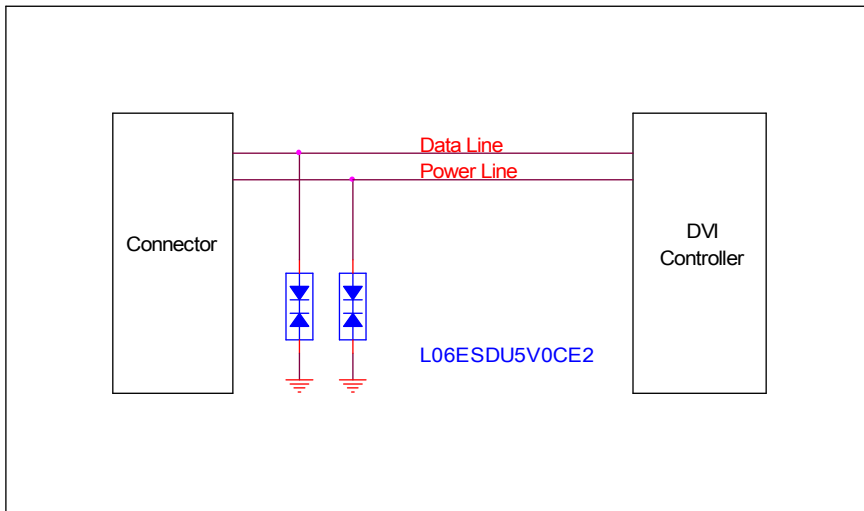


Figure 11. DVI ESD Protection

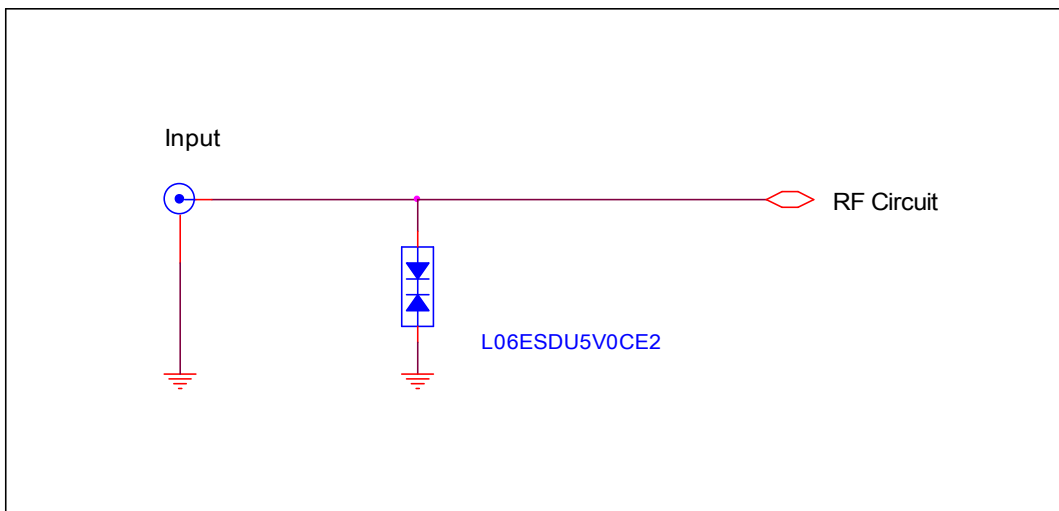


Figure 12. RF Circuit ESD Protection

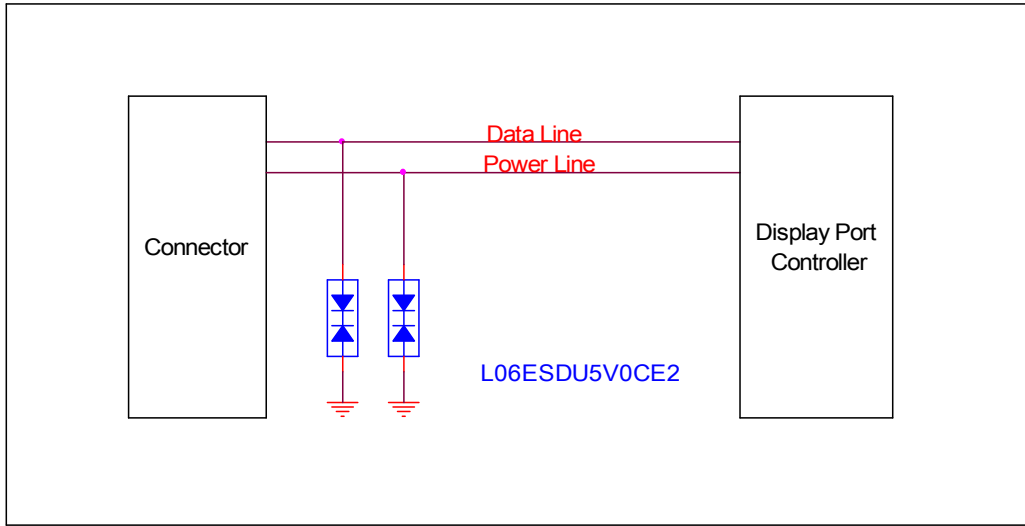


Figure 13. Display Port ESD Protection

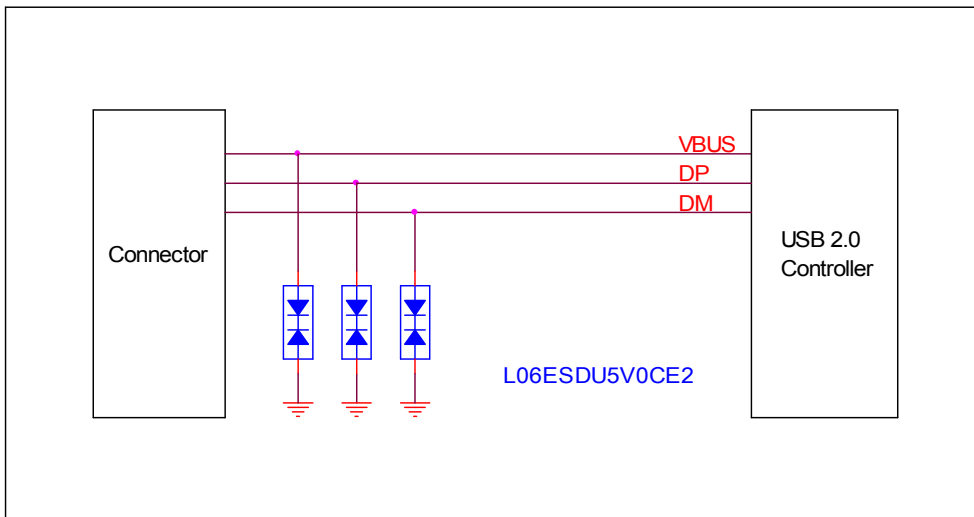


Figure 14. USB2.0 Interface ESD Protection

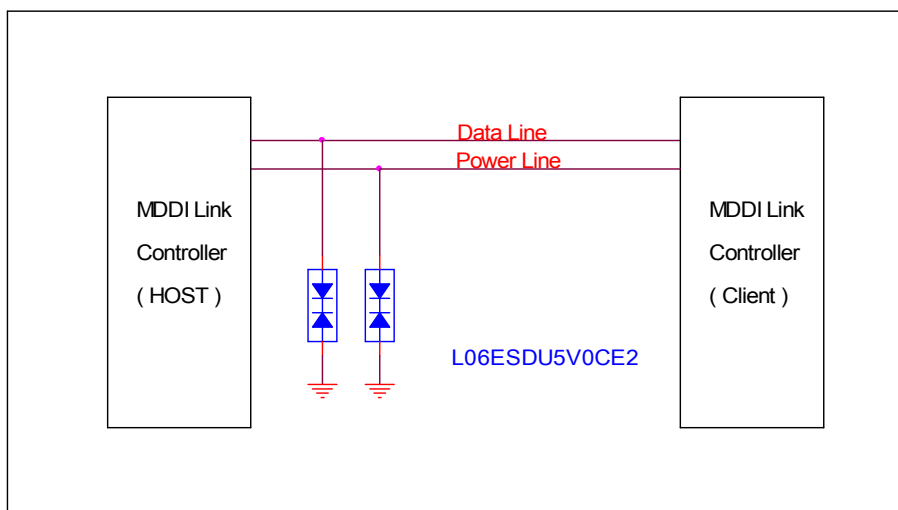


Figure 15. MDDI ESD Protection

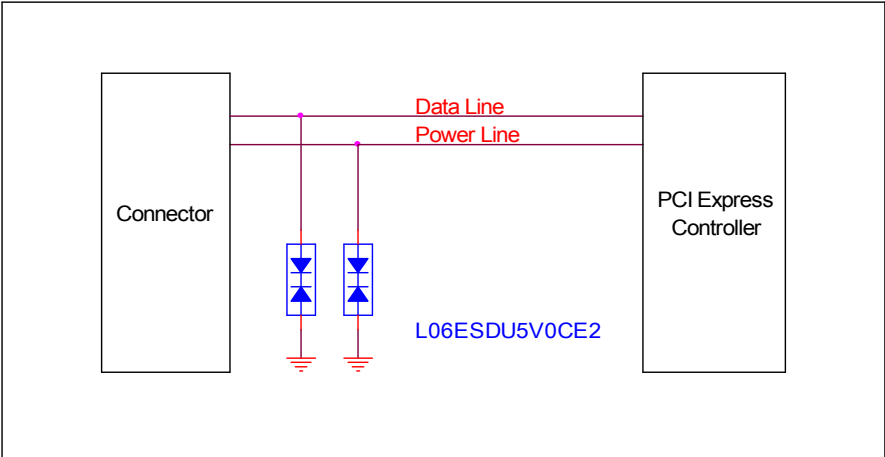
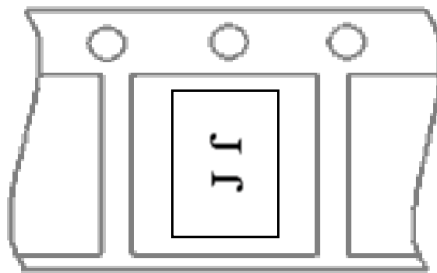


Figure 16. PCI Express ESD Protection

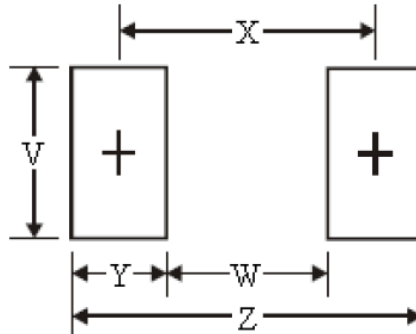
### Marking & Orientation



### Packaging Information

DEVICE	Q'TY/REEL (PCS)	REEL DIA. (INCH)	Q'TY/BOX (PCS)	Q'TY/CARTON (PCS)
L06ESDU5V0CE2	10K	7	150K	300K

### SOD-882 Soldering Pad Layout



Dim.	Millimeters	Inches
Z	1.30	0.051
X	0.75	0.029
W	0.20	0.007
Y	0.55	0.021
V	0.80	0.031

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