



DATA SHEET

SEMICONDUCTOR

YSULCxx04P10



APPLICATIONS

- ◆ Portable Electronics
- ◆ USB OTG interfaces
- ◆ Video Graphics Cards
- ◆ Notebooks, Desktops, and Servers
- ◆ Portable Instrumentation
- ◆ Industrial Controls
- ◆ Peripherals

IEC COMPATIBILITY

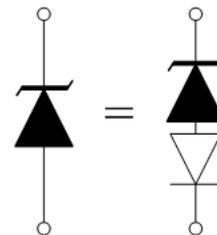
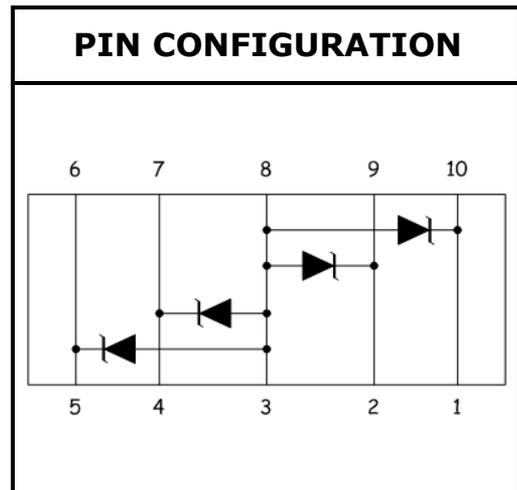
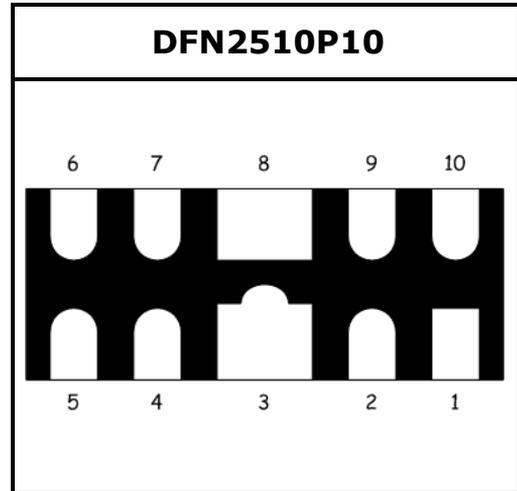
- ◆ IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50 η s)
- ◆ IEC61000-4-5 (Lightning) 5A (8/20 μ s)

FEATURES

- ◆ 100 Watts Peak Pulse Power per Line ($t_p=8/20\mu$ s)
- ◆ Protects Four High Speed Lines
- ◆ Low Clamping Voltage
- ◆ RoHS Compliant

MECHANICAL CHARACTERISTICS

- ◆ DFN2510P10 (2.5x1.0mm) Package
- ◆ Molding Compound Flammability Rating : UL 94V-0
- ◆ Weight 5.0 Milligrams (Approximate)
- ◆ Quantity Per Reel : 3,000pcs
- ◆ Reel Size : 7 inch
- ◆ Lead Finish : Lead Free



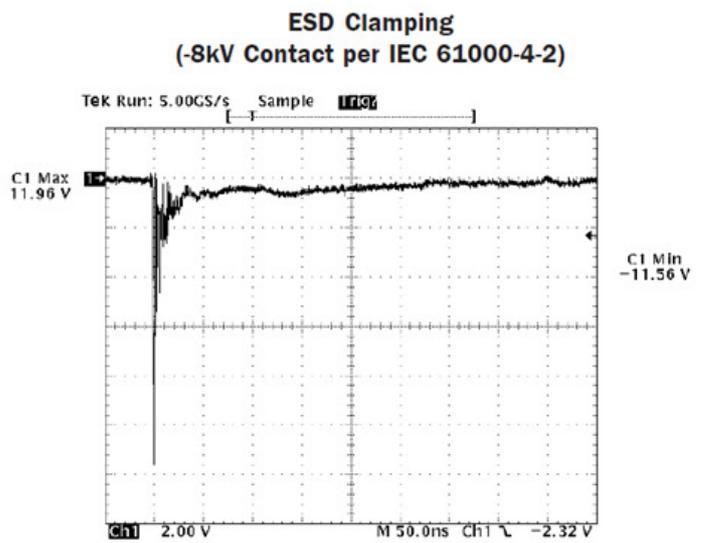
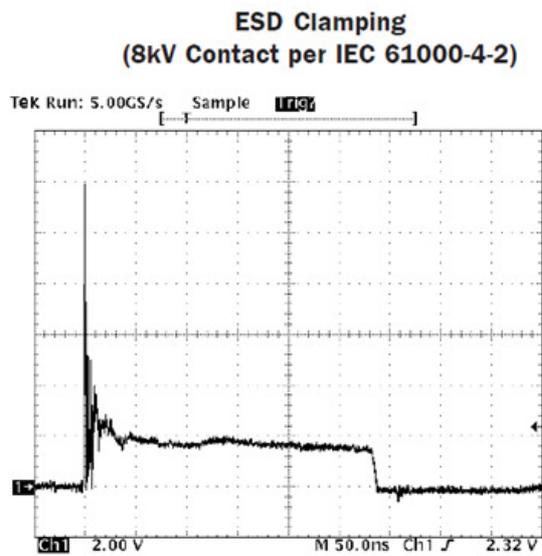
Configuration per Line

DEVICE CHARACTERISTICS

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MAXIMUM RATINGS (@ 25°C Unless Otherwise Specified)			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp=8/20µs waveform)	P _{PP}	100	Watts
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
Operating Temperature Range	T _J	-55 ~ 150	°C
Storage Temperature Range	T _{STG}	-55 ~ 150	°C

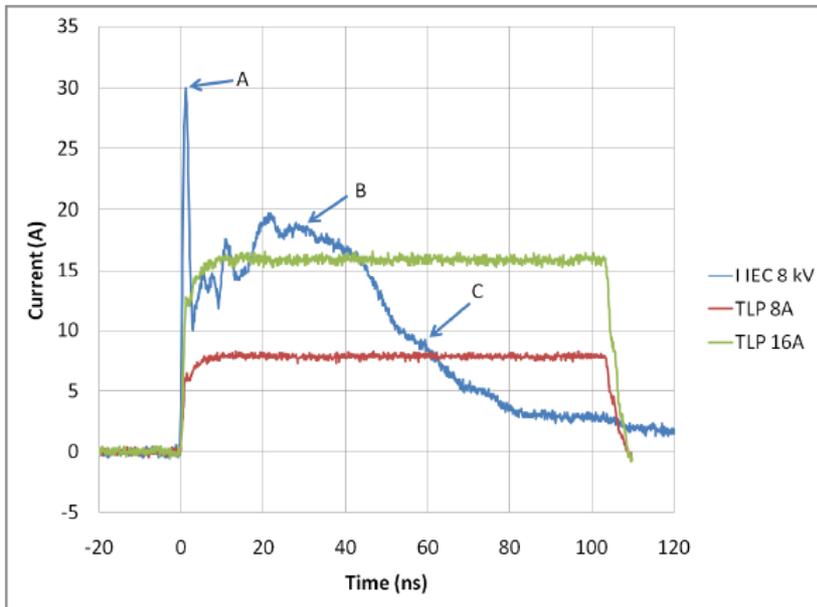
ELECTRICAL CHARACTERISTICS PER LINE (@ 25°C Unless Otherwise Specified)									
PART NUMBER	DEVICE MARKING	V _{RWM}	V _B	I _T	V _C	V _{C (8/20µs)}		I _R	C _T
		(V) (max.)	(V) (min.)	(mA)	(8/20µs) @1A (max.)	(max.)	(@A)	(µA) (max.)	(pF) (typ.)
YSULC3304P10	304U	3.3	4.0	1	7.5	15	8	1	0.5
YSULC0504P10	504U	5	6.0	1	9.8	18	8	1	0.5



Transmission Line Pulse (TLP)

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Transmission Line Pulse (TLP) is a measurement technique used in the Electrostatic Discharge (ESD) arena to characterize performance attributes of devices under ESD stresses. TLP is able to obtain current versus voltage (I–V) curves in which each data point is obtained with a 100 ns long pulse, with currents up to 40 A. TLP was first used in the ESD field to study human body model (HBM) in integrated circuits, but it is an equally valid tool in the field of system level ESD. The applicability of TLP to system level ESD is illustrated in Figure 1, which compares an 8 kV IEC 61000–4–2 current waveform with TLP current pulses of 8 and 16 A. The current levels and time duration for the pulses are similar and the initial rise time for the TLP pulse is comparable to the rise time of the IEC 61000–4–2’s initial current spike. This application note will give a basic introduction to TLP measurements and explain the datasheet parameters extracted from TLP for Yeashin Technology’s protection products.



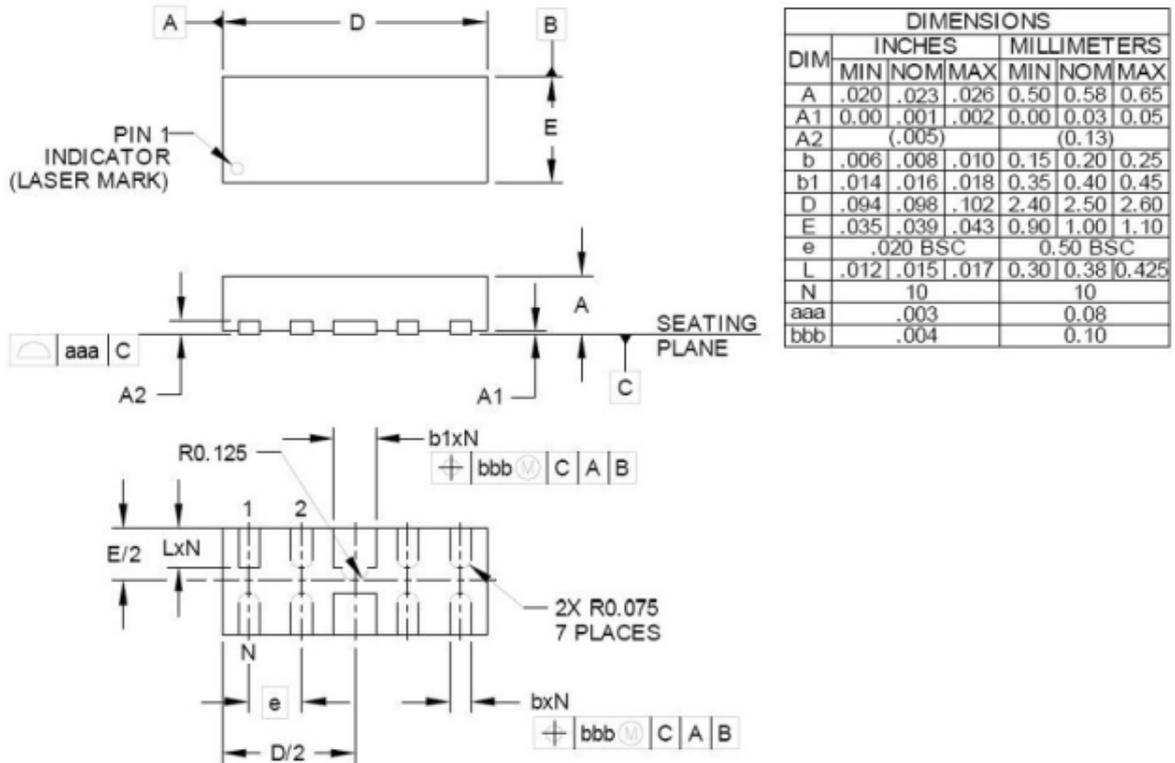
Comparison of a Current Waveform of IEC 61000–4–2 with TLP Pulses at 8 and 16 A.

The IEC 61000–4–2 ESD waveforms is true to the Standard and is shown here as captured on an oscilloscope. The points A, B, and C show the points on the waveforms specified in IEC 61000–4–2.

	4A (tp=100ns)	8A (tp=100ns)
ULC3304P10	5.5V(typ.)	8.5V(typ.)
ULC0504P10	7.8V(typ.)	9.5V(typ.)

PACKAGE OUTLINE & DIMENSIONS

YSULCxx04P10



* SOLDERING FOOTPRINT

