H08X643V3U

ESD Array Protection Device

Peak Pulse Power - 60 Watts
Reverse Working Voltage - 3.3V

Description

The H08X643V3U is ultra low capacitance ESD arrays designed to protect high speed data interfaces. This has been specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from over voltage caused by ESD (electrostatic discharge).

Features

- Protects four I/O lines (Data line)
- Peak Pulse Power :Ppp = 60W (tp=8/20 us)
- Reverse Working Voltage : 3.3V
- Low Leakage Current
- Low Clamping Voltage
- Low Junction Capacitance : Any I/O to Gnd , 0.45pF (Typ)
- IEC 61000-4-2 (ESD) :±10kV(Contact) / ±25kV(Air)

Applications

- High definition multi-media interface (HDMI)
- Digital visual interface (DVI)
- Display protTM interface
- USB 3.0/3.1
- MDDI ports / SATA

Mechanical Data

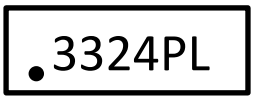
- Case: DFN2510 Package
- Case Material: “Green” Molding Compound UL Flammability Classification Rating 94V-0
- Terminal: Matte tin plated.
- Component in accordance to RoHS
- Halogen Free

Note: Products with logo or are made by HY Electronic (Cayman) Limited.

Ordering Information

- Package :DFN2510
- Reel Size :7 (inches)
- Quantity Per Reel :3,000/Tape & Reel
- Quantity One Box :30,000/Tape & Reel
- Quantity One Carton :120,000/Tape & Reel

Marking Information

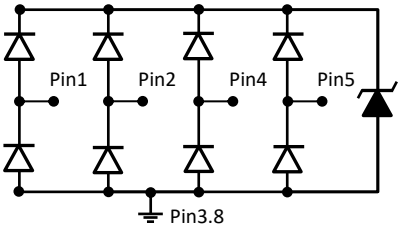


Package Outline



DFN2510 Top View

Device Schematic & PIN Configuration



Pin Assignment	
1, 2, 4, 5	Input lines
6, 7, 9, 10	NC
3, 8	Ground

Maximum Ratings (@TA = +25°C, unless otherwise specified.)

Absolute Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation (8/20 us)	P_{PP}	60	W
Peak Pulse Current (8/20 us)	I_{PP}	8	A
Operating Supply Voltage	V_{DC}	3.63	V
ESD Protection- Contact (Standard IEC 61000-4-2)	V_{ESD}	±10	k V
ESD Protection- Air (Standard IEC 61000-4-2)		±25	
Operating Temperature Range	T_J	-55 to +125	° C
Storage Temperature Range	T_{STG}	-55 to +150	° C
Soldering Temperature, t max =10s	T_L	260	° C

Electrical Characteristics

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Reverse Working Voltage	Any I/O pin to ground	V_{RWM}	-	-	3.3	V
Reverse Breakdown Voltage	I_T= 1mA	V_B	5	-	9	V
Reverse Leakage Current	V_R = 3.3V	I_R	-	-	0.1	uA
Reverse Clamping Voltage	I_{PP} = 8A (8/20μs)	V_C	-	-	7.5	V
TLP Clamping Voltage	I_{PP} =16A, T_P =100ns	V_{CL}	-	3.8	-	V
Dynamic Resistance	TLP Pulse	R_{DYN}	-	0.15	-	Ω
Junction Capacitance	V_R = 0V, F = 1MHz Any I/O pin to ground	Cj	-	0.45	0.8	p F
	V_R = 0V, F = 1MHz Between I/O pins		-	0.2	0.4	p F

Rating and Characteristic Curves

FIG.1 - 8/20us Pulse Waveform According to IEC 61000-4-5

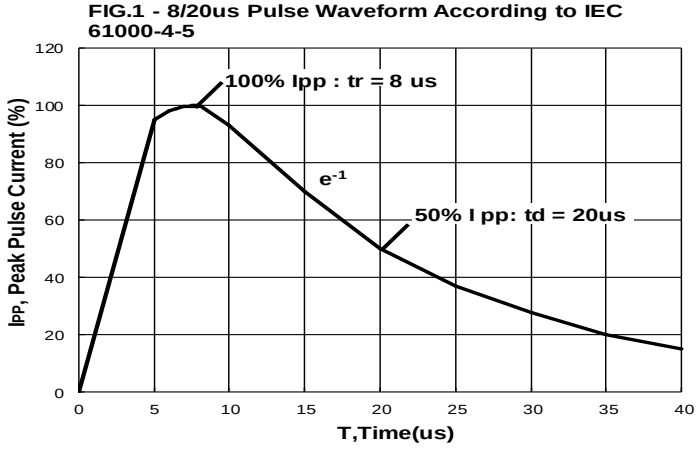


FIG.2 - Power Dissipation Versus Pulse Time

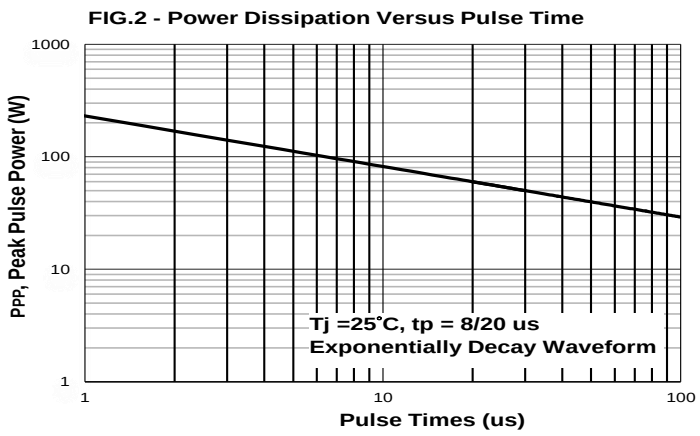


FIG.3 - Peak Pulse Power Versus Tj

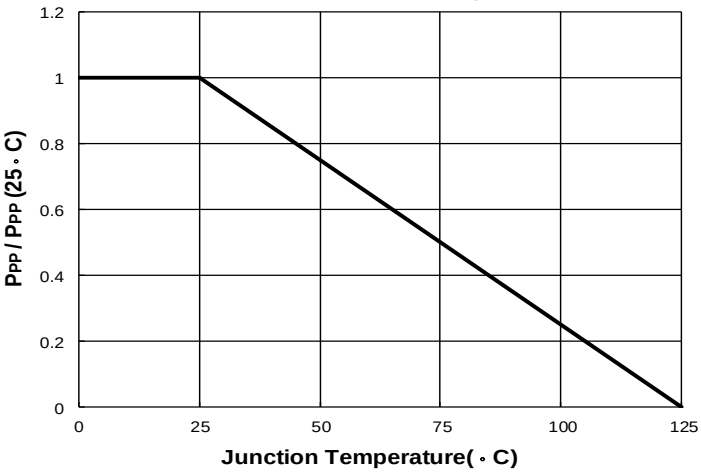


FIG.4 - Clamping Voltage Characteristic

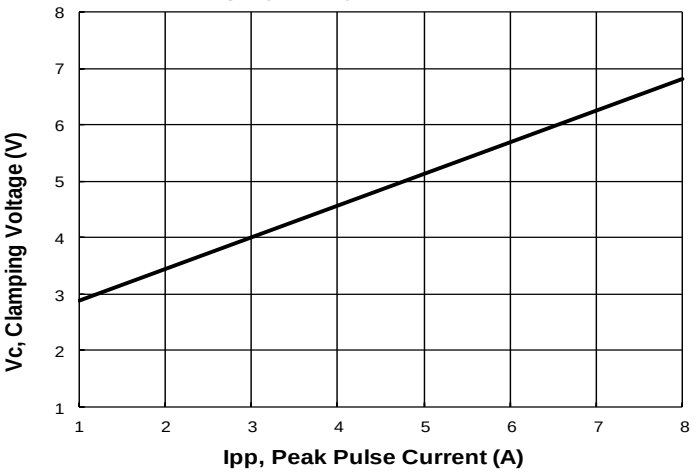
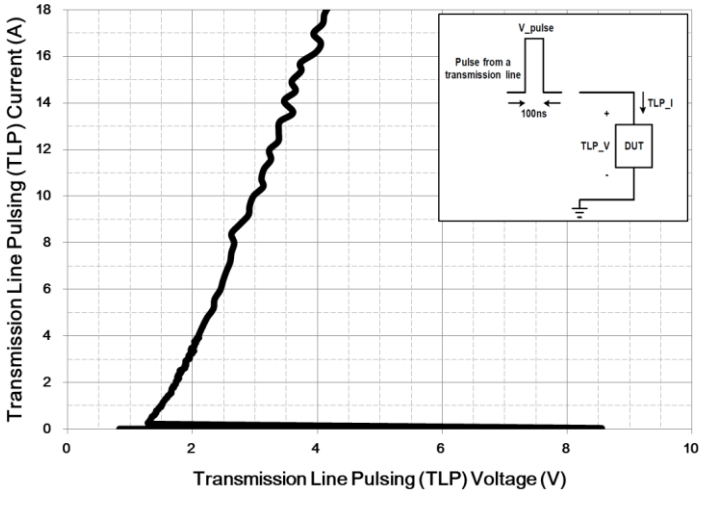
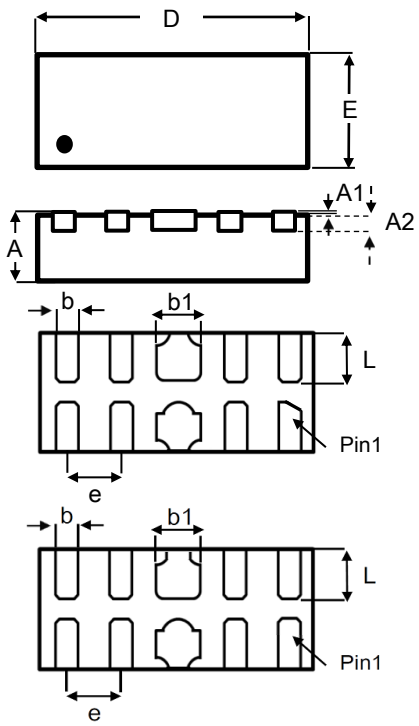


FIG.5 - Transmission Line Pulsing(TLP)Measurement



The curve above is for reference only.

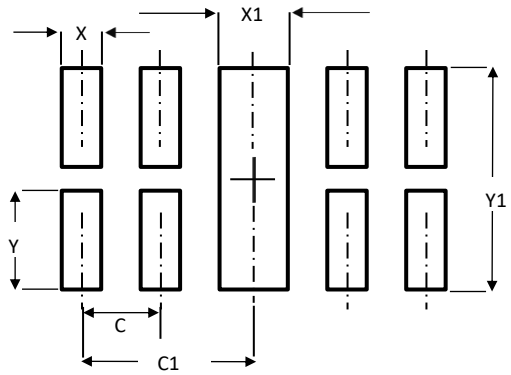
Package Outline Dimensions



DFN2510 Package		
Dim.	Min	Max
D	2.45	2.55
E	0.95	1.05
A	0.45	0.55
A1	0.00	0.05
A2	0.15 REF	
b	0.15	0.25
b1	0.35	0.45
e	0.50 BSC	
L	0.33	0.43
All Dimensions in mm		

Note: HY internal have both AT site

Suggested Soldering Pad Layout



Dim.	Value
X	0.30
X1	0.40
Y	0.48
Y1	1.20
C	0.50
C1	1.00
All Dimensions in mm	

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