H04X845V0U

ESD Array Protection Device

Peak Pulse Power - 60 Watts
Reverse Working Voltage - 5V

Description

The H04X845V0U is ultra low capacitance ESD 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 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 : 5V
- Low Leakage Current
- Low Capacitance : I/O to I/O , 0.2pF (Typ)
- IEC 61000-4-2 (ESD) :±20kV(Contact) / ±25kV(Air)
- IEC 61000-4-4 (EFT) 40A (5/50ns)

Applications

- High definition multi-media interface (HDMI)
- Digital visual interface (DVI)
- USB 2.0 / USB 3.0 power and data line protection
- Serial ATA
- MDDI ports
- PCI Express

Mechanical Data

- Case: DFN2010-5L 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 HY® or HY® are made by HY Electronic (Cayman) Limited.

Ordering Information

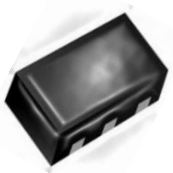
- Package :DFN2010-5L
- Reel Size :7 (inches)
- Quantity Per Reel :3,000/Tape & Reel
- Quantity One Box :30,000/Tape & Reel
- Quantity One Carton :120,000/Tape & Reel

Marking Information



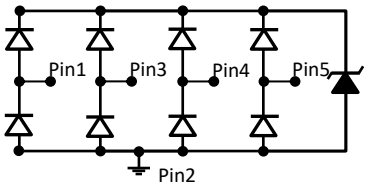
Product Type Marking Code

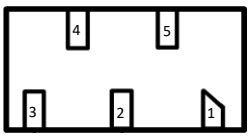
Package Outline



DFN2010-5L Top View

Device Schematic & PIN Configuration





Pin Assignment	
1, 3, 4, 5	Input lines
2	Ground

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

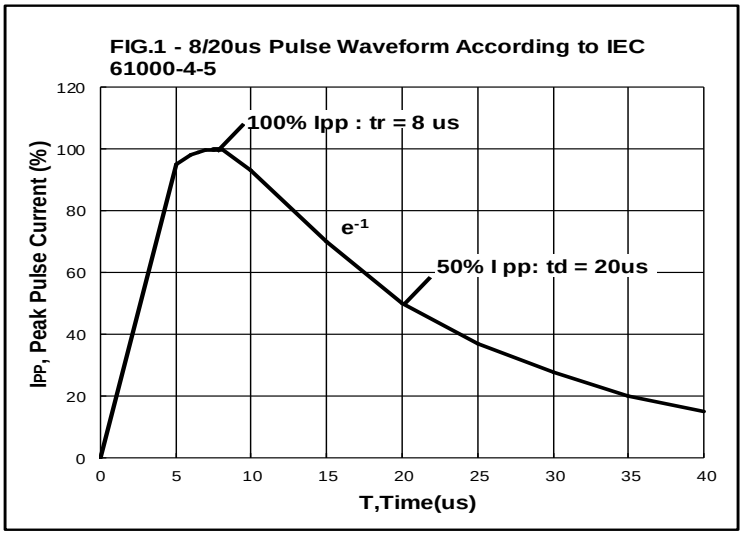
Absolute Ratings

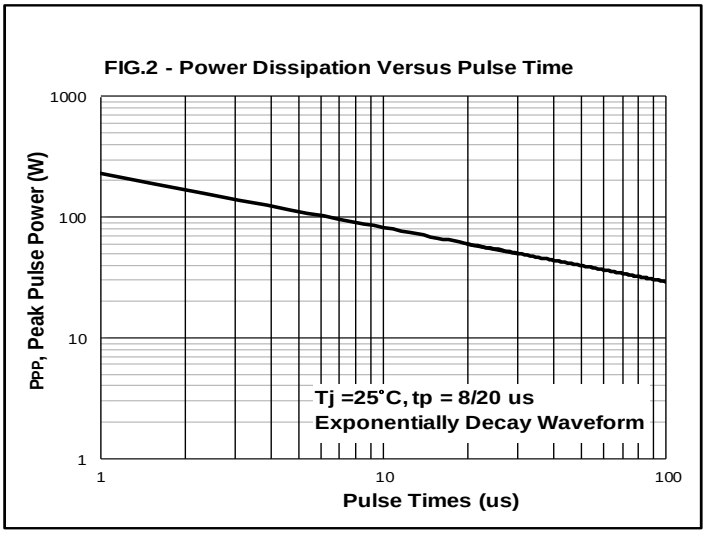
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation (8/20 us)	P_{PP}	60	W
Peak Pulse Current (8/20 us)	I_{PP}	4	A
Operating Supply Voltage	V_{DC}	5.5	V
ESD Protection- Contact (Standard IEC 61000-4-2)	V_{ESD}	±20	k V
ESD Protection- Air (Standard IEC 61000-4-2)		±25	
Operating Temperature Range	T_J	-55 to +125	° C
Storage Temperature Range	T_{STG}	-55 to +150	° C

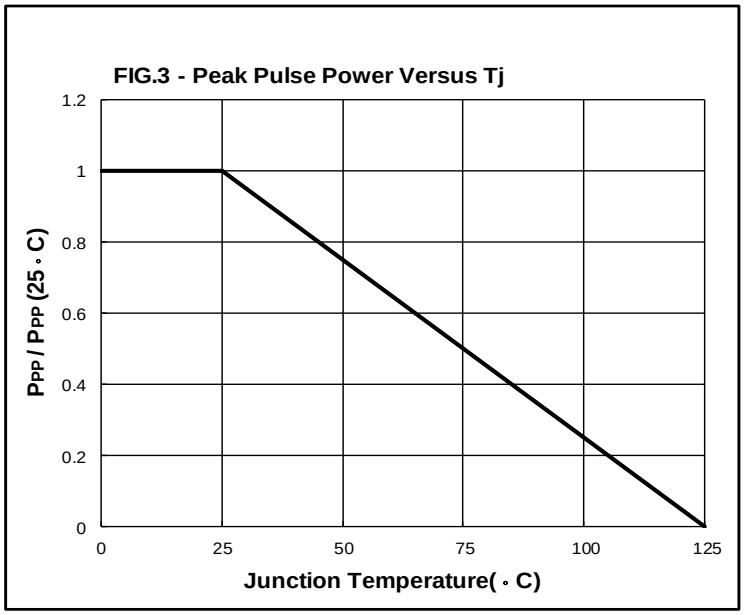
Electrical Characteristics

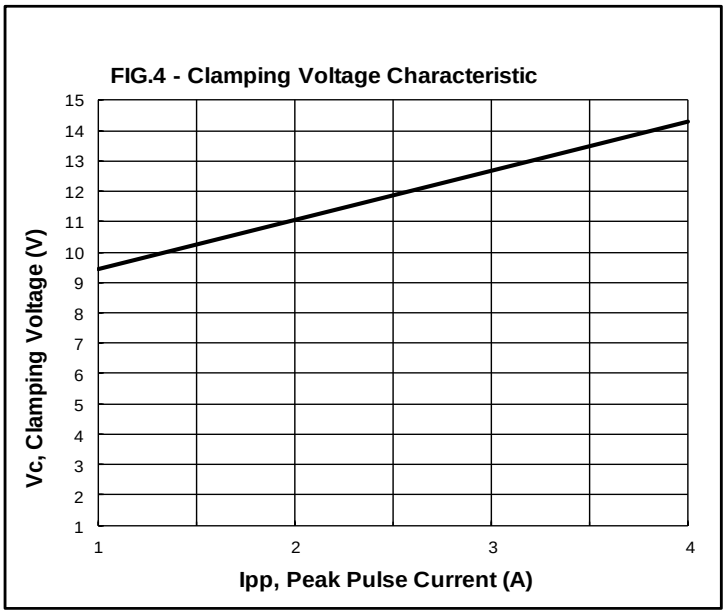
Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Reverse Working Voltage	Any I/O pin to ground	V_{RWM}	-	-	5	V
Reverse Breakdown Voltage	I_T= 1mA	V_B	6	-	9	V
Reverse Leakage Current	V_R = 5V	I_R	-	-	1	uA
Clamping Voltage	I_{PP} = 1A (8/20μs)	V_C	-	-	10	V
	I_{PP} = 4A (8/20μs)		-	-	15	
TLP Clamping Voltage	I_{PP}=16A, T_P=100ns	V_{CL}	-	21	-	V
Dynamic Resistance	TLP Pulse	R_{DYN}	-	0.8	-	Ω
Junction Capacitance	V_R = 0V, F = 1MHz Between I/O pins	Cj	-	0.2	0.3	p F
	V_R = 0V, F = 1MHz Any I/O pin to ground		-	0.4	0.5	

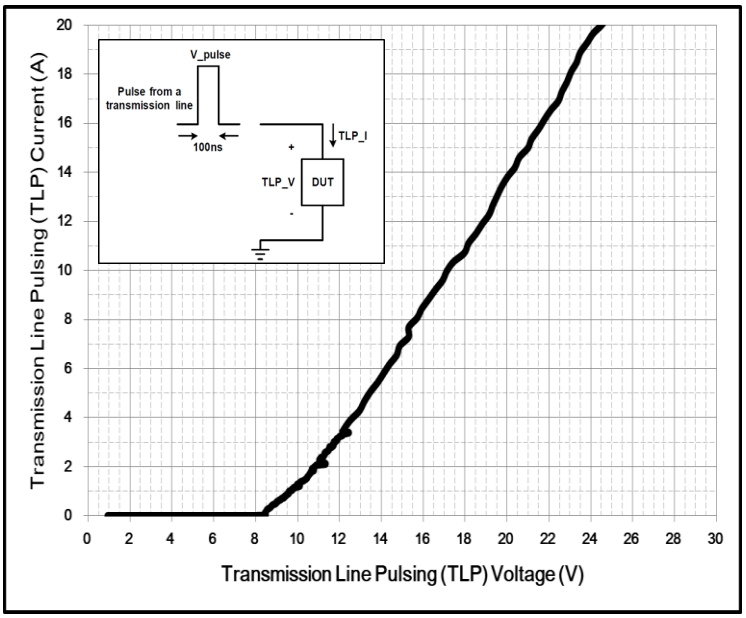
Rating and Characteristic Curves





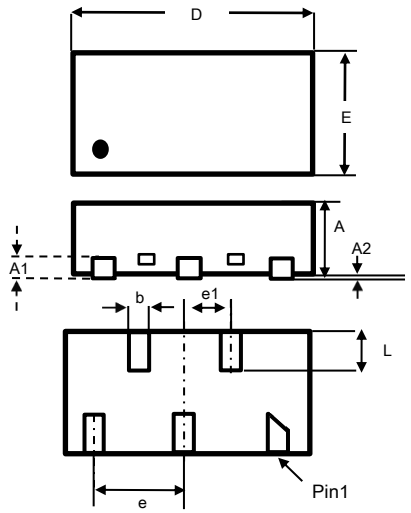






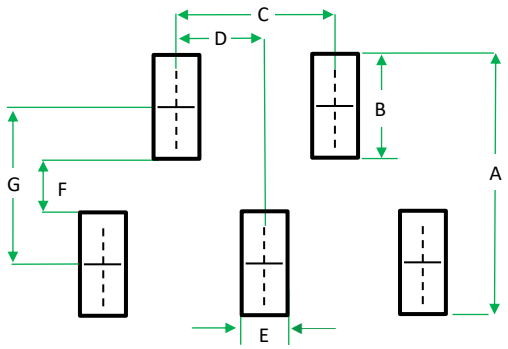
The curve above is for reference only.

Package Outline Dimensions



DFN2010-5L Package			
Dim.	Min	Typ	Max
D	1.95	2.00	2.05
E	0.95	1.00	1.05
A	0.45	0.50	0.55
A1		0.15 REF	
A2	0.00	-	0.05
b	0.15	0.20	0.25
e		0.80 BSC	
e1		0.40 BSC	
L	0.25	0.30	0.35
All Dimensions in mm			

Suggested Soldering Pad Layout



Dim.	Value
A	1.45
B	0.60
C	0.80
D	0.40
E	0.20
F	0.25
G	0.85
All Dimensions in mm	

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