ESD Array Protection Device

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

Description

The H04X645V0U 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
- Ultra Low Junction Capacitance : I/O to I/O , 0.3pF (Max)
- 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)
- Display protTM interface
- USB3.0(5G) / USB 3.1(10G)
- SATA
- Display and MDDI Ports
- Ethernet port:10/100/1000/2500 Mb/s

Mechanical Data

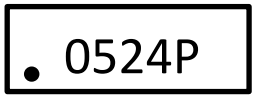
- Case: DFN2510 Package
- Case Material: “Green” Molding Compound UL Flammability Classification Rating 94V-0
- Terminal: Matte tin plated.
- Component in accordance to RoHS
- Halogen Free

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

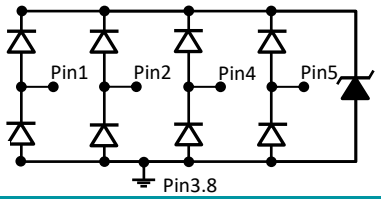


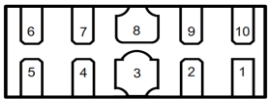
Product Type Marking Code

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.)

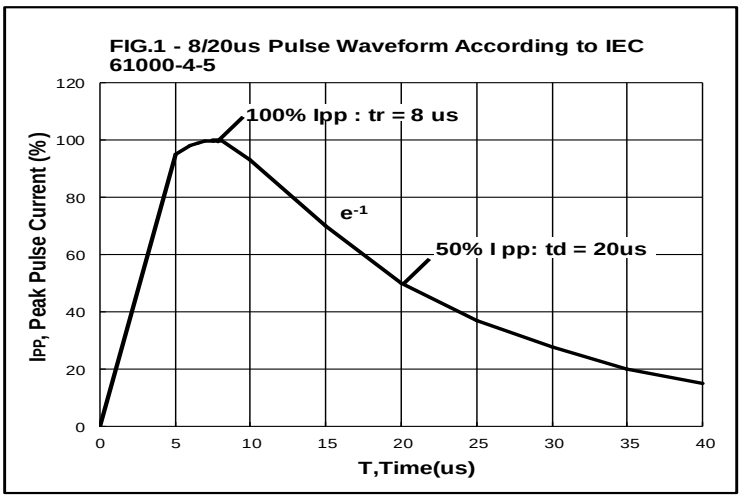
Absolute Ratings

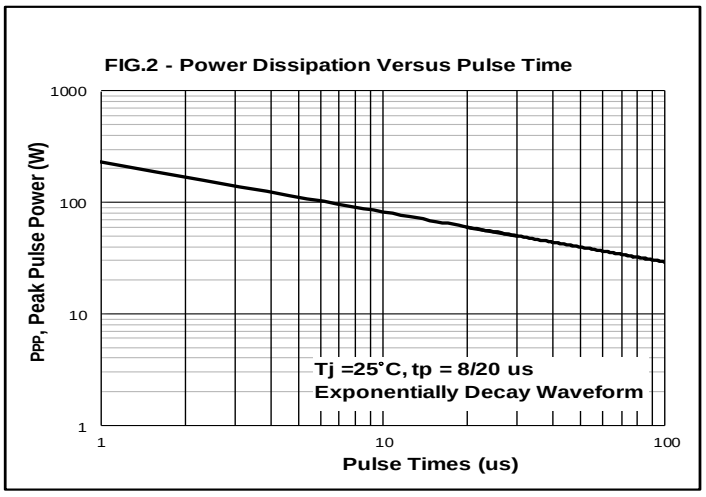
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation (8/20 us)	P_{PP}	60	W
Peak Pulse Current (8/20 us)	I_{PP}	4	A
ESD Protection- Contact (Standard IEC 61000-4-2)	V_{ESD}	±20	k V
ESD Protection- Air (Standard IEC 61000-4-2)		±25	
Operating Temperature Range	T_J	-55 to +125	° C
Storage Temperature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

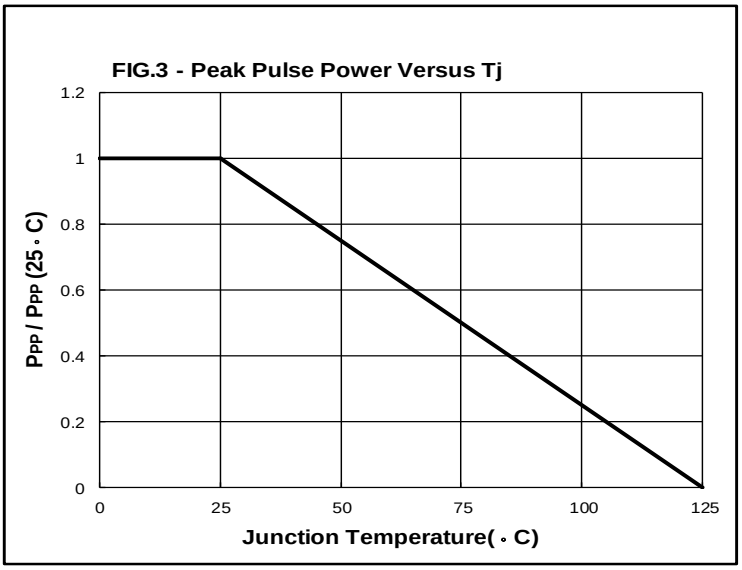
Electrical Characteristics

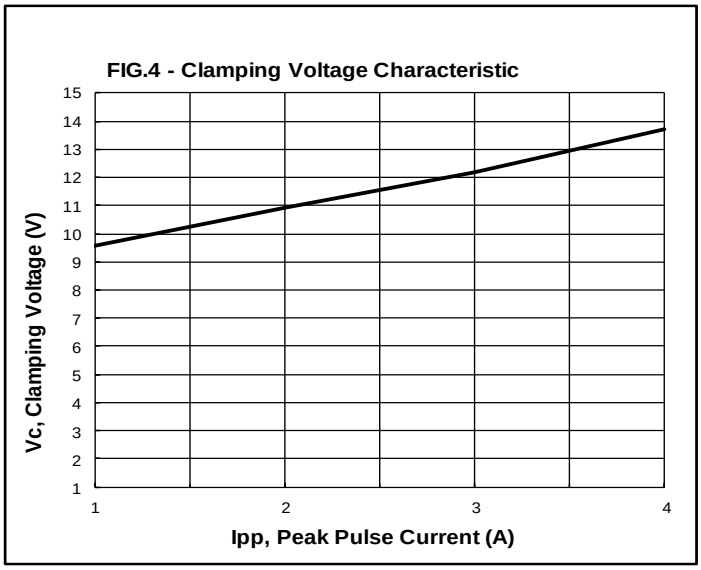
Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Reverse Working Voltage	Any I/O pin to ground	V_{RWM}	-	-	5	V
Reverse Breakdown Voltage	I_T= 1mA	V_B	6	-	9	V
Reverse Leakage Current	V_R = 5V	I_R	-	-	1	uA
Reverse Clamping Voltage	I_{PP} = 1A (8/20μs)	V_C	-	-	10	V
	I_{PP} = 4A (8/20μs)		-	-	15	
Junction Capacitance	VR = 0V, F = 1MHz Between I/O pins	Cj	-	0.25	0.3	p F
	V_R = 0V, F = 1MHz Any I/O pin to ground		-	0.5	0.6	

Rating and Characteristic Curves



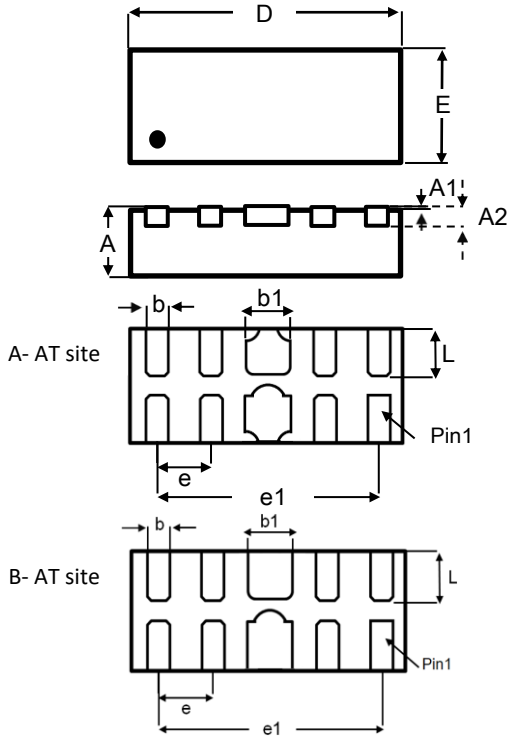






The curve above is for reference only.

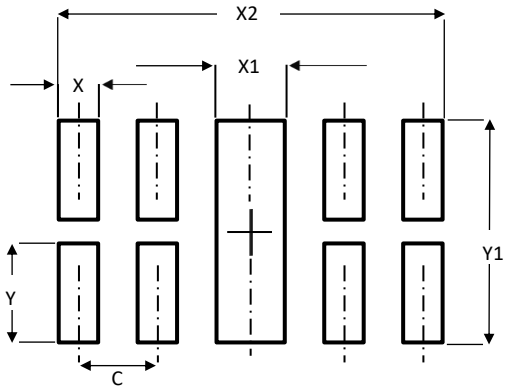
Package Outline Dimensions



DFN2510 Package			
Dim.	Min	Typ	Max
D	2.45	2.50	2.55
E	0.95	1.00	1.05
A	0.45	0.50	0.55
A1	0.00	-	0.05
A2	0.15REF		
b	0.15	0.20	0.25
b1	0.35	0.40	0.45
e	-	0.50	-
e1	-	2.00	-
L	0.33	0.38	0.43
All Dimensions in mm			

Note: HY internal have both AT site

Suggested Soldering Pad Layout



Dim.	Value
X	0.25
X1	0.45
X2	2.25
Y	0.63
Y1	1.40
C	0.50
All Dimensions in mm	

Legal Disclaimer Notice

Disclaimer

All specifications and data are subject to be changed without notice to improve reliability function or design or other reasons.

HY makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, HY disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special,consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on HY's knowledge of typical requirements that are often placed on HY products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application.Parameters provided in datasheets and specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify HY's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, HY products are not designed for use in medical, life-saving, or life-sustaining applications or for any other applications in which the failure of the HY product could result in personal injury or death. Customers using or selling HY products not expressly indicated for use in such applications do so at their own risk.Please contact authorized HY personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of HY. Product names and markings noted herein may be trademarks of their respective owners.