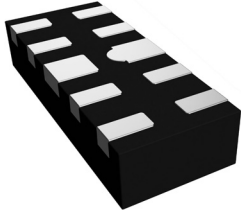
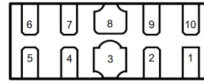
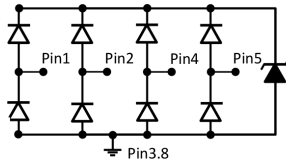


**RoHS
Compliant**



Device Schematic & PIN Configuration



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

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).

Applications

- High definition multi-media interface (HDMI)
- Digital visual interface (DVI)
- Display port™ interface
- USB3.0(5G) / USB 3.1(10G)
- MDDI ports / SATA

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)

Mechanical Data

- Case: DFN2510 Package
- Case Material: "Green" Molding Compound UL Flammability Case Material: "Green" Molding Compound UL Flammability

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

Absolute Ratings			
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation (8/20 us)	PPP	60	W
Peak Pulse Current (8/20 us)	IPP	4	A
ESD Protection- Contact (Standard IEC 61000-4-2)	VESD	±20	k V
ESD Protection- Air (Standard IEC 61000-4-2)		±25	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	TSTG	-55 to +150	
Soldering Temperature, t max =10s	TL	260	

Newark.com/multicomp-pro
Farnell.com/multicomp-pro
sg.element14.com/b/multicomp-pro

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	$I_T = 1\text{mA}$	V_B	6	-	9	V
Reverse Current	$V_R = 5\text{V}$	I_R	-	-	1	μA
Reverse Clamping Voltage	$I_{PP} = 1\text{A}$ (8/20 μs)	V_C	-	-	10	V
	$I_{PP} = 4\text{A}$ (8/20 μs)				15	
Junction Capacitance	$V_R = 0\text{V}$, $F = 1\text{MHz}$ Between I/O pins	C_j	-	0.25	0.3	pF
	$V_R = 0\text{V}$, $F = 1\text{MHz}$ Any I/O pin to ground			0.5	0.6	

Rating and Characteristic Curves

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

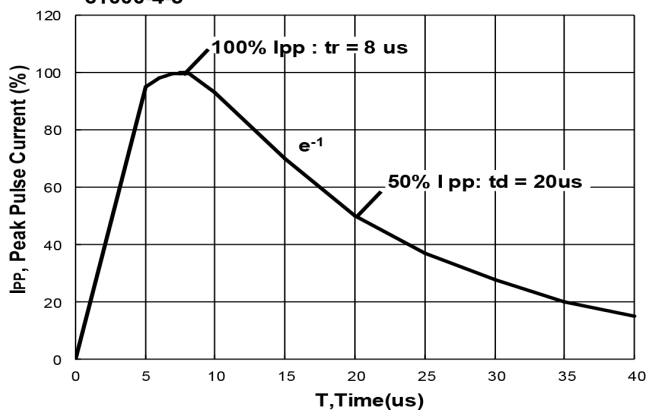


FIG.2 - Power Dissipation Versus Pulse Time

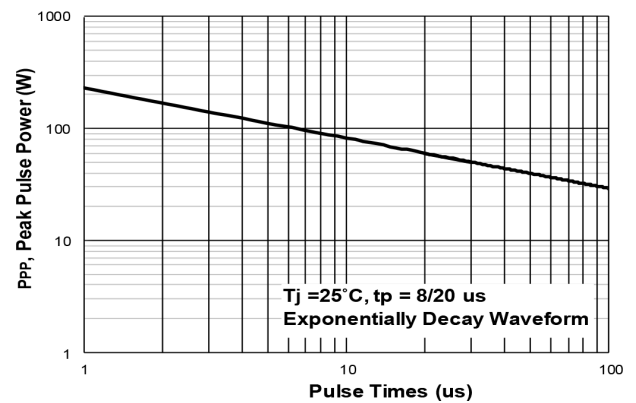


FIG.3 - Peak Pulse Power Versus T_j

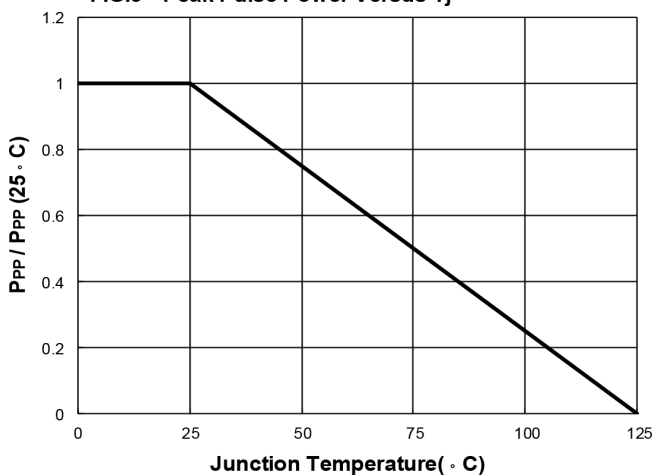
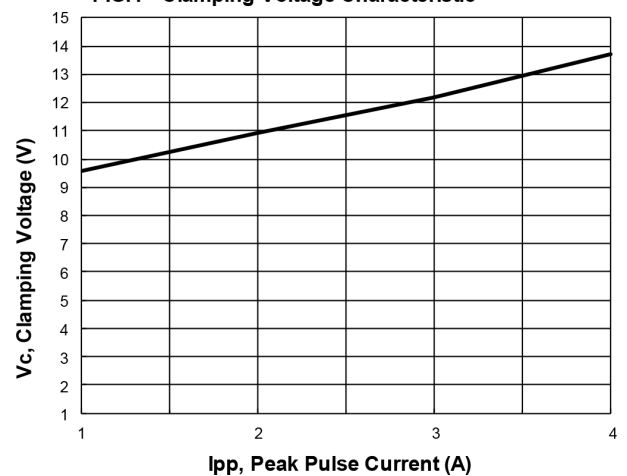
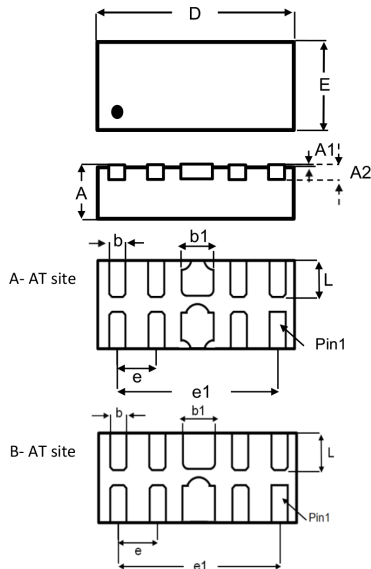


FIG.4 - Clamping Voltage Characteristic

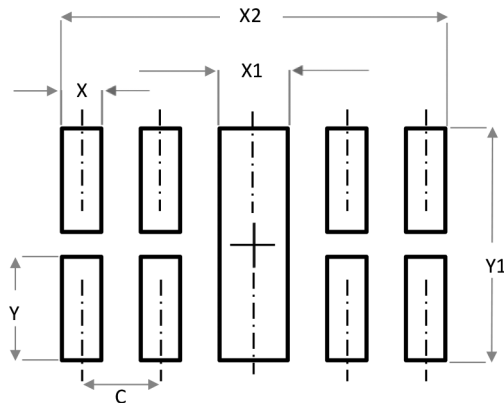


Package Outline Dimensions



DFN2510 Package			
Dim	Min	Typ	Max
D	2.45	2.5	2.55
E	0.95	1	1.05
A	0.45	0.5	0.55
A1	0	--	0.05
A2	0.15REF		
b	0.15	0.2	0.25
b1	0.35	0.4	0.45
e	--	0.5	--
e1	--	2	--
L	0.33	0.38	0.43

Suggested Soldering Pad Layout



Dim.	Value
X	0.25
X1	0.45
X2	2.25
Y	0.63
Y1	1.4
C	0.5

Part Number Table

Description	Part Number
ESD ARRAY PROTECTION DEVICE, 5A, 12V, DFN-2510	H04X645V0U

Dimensions : Millimetres

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