



Uni-directional ESD Protection Diode

Peak Pulse Power - 60 Watts
Reverse Working Voltage - 5.0V

Description

The H04C645V0U 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 highspeed data and transmission lines from overvoltage caused by ESD(electrostatic discharge).



Features

- Protects up to four high-speed I/O lines & one power line
- Peak Pulse Power :Ppp = 60W (tp=8/20 us)
- Reverse Working Voltage : 5V
- Ultra low capacitance: 0.5pF .max (Any I/O pin to ground)
- Low Clamping Voltage
- IEC 61000-4-2 (ESD) :±20kV(Contact) / ±30kV(Air)

Applications

- USB2.0 Power and Data lines protection
- Digital Visual Interface (DVI)
- Notebook and PC Computers
- Video Graphics Cards
- SIM ports

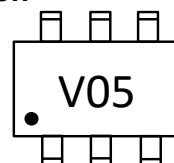
Mechanical Data

- Case: SOT26 Package
 - Case Material: "Green" Molding Compound UL Flammability Classification Rating 94V-0
 - Terminals:Matte tin plated,solderable per MIL-STD-750,method 2026
 - Component in accordance to RoHS
 - Halogen Free
- Note: Products with logo  or  are made by HY Electronic (Cayman) Limited.

Ordering Information

- Package :SOT26
- Reel Size :7 (inches)
- Quantity Per Reel :3,000/Tape & Reel
- Quantity One Box :45,000/Tape & Reel
- Quantity One Carton :180,000/Tape & Reel

Marking Information



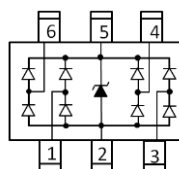
" V05 " = Product Type Marking Code

Package Outline



SOT26 Top View

Device Schematic & PIN Configuration



Pin Assignment	
1, 3, 4, 6	Input lines
5	Vcc
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
ESD Protection- Contact (Standard IEC 61000-4-2)	V _{ESD}	±20	k V
ESD Protection- Air (Standard IEC 61000-4-2)		±30	
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 Any I/O pin to ground	V _B	6	-	9	V
Reverse Current	V _R = 5V Any I/O pin to ground	I _R	-	-	1	uA
Reverse Clamping Voltage	I _{PP} = 1A (8/20µs) Any I/O pin to ground	V _C	-	-	10	V
	I _{PP} = 4A (8/20µs) Any I/O pin to ground		-	-	15	
Junction Capacitance	V _R = 0V, F = 1MHz Between I/O pins	C _j	-	0.2	0.25	p F
	V _R = 0V, F = 1MHz Any I/O pin to ground		-	0.45	0.5	p F



Rating and Characteristic Curves

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

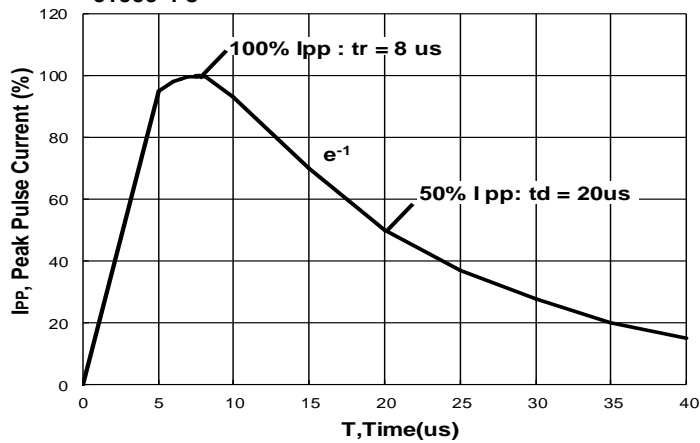


FIG.2 - Power Dissipation Versus Pulse Time

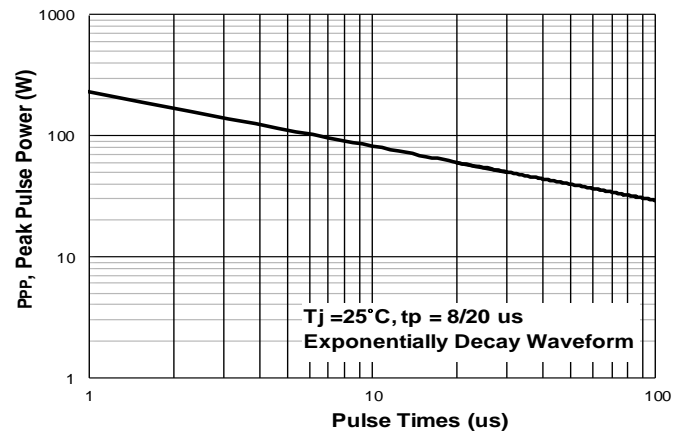


FIG.3 - Peak Pulse Power Versus T_j

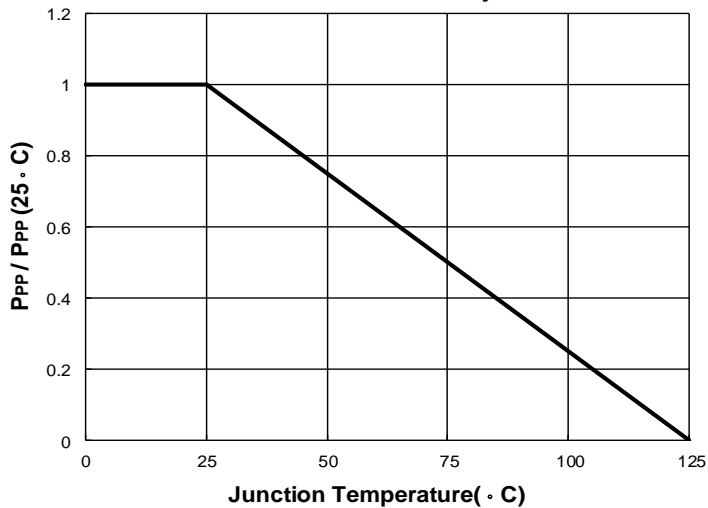
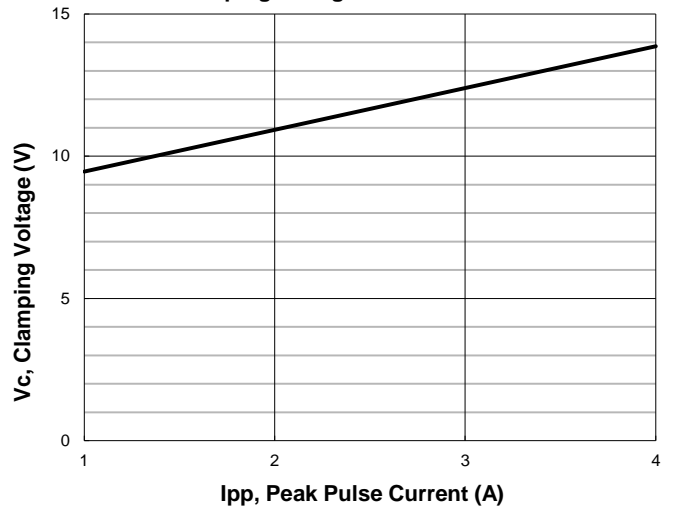
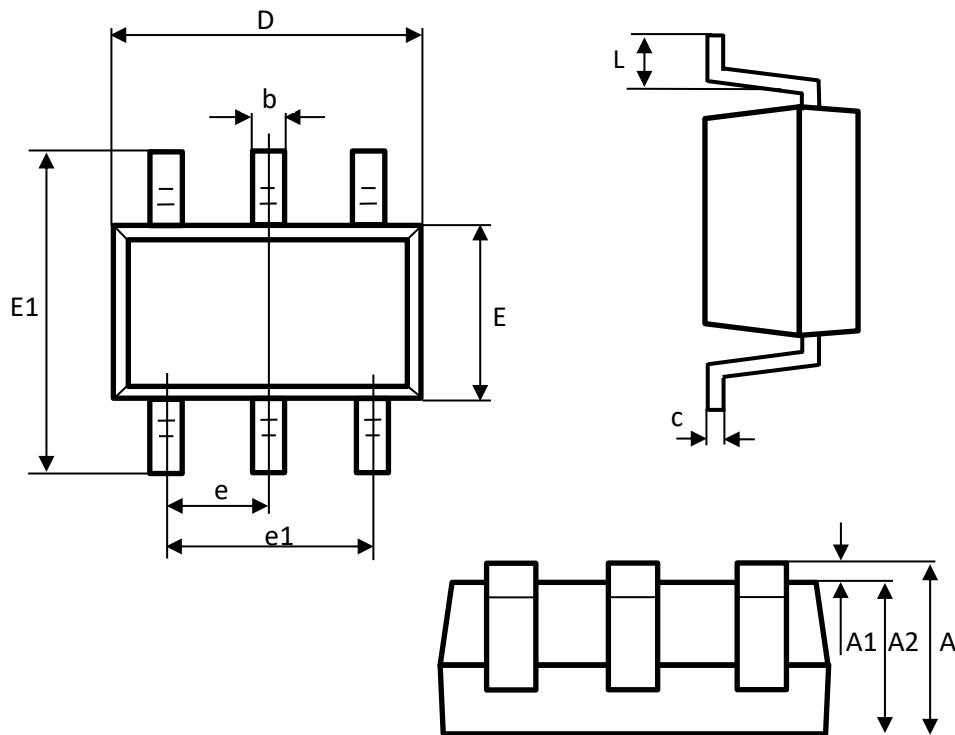


FIG.4 - Clamping Voltage Characteristic



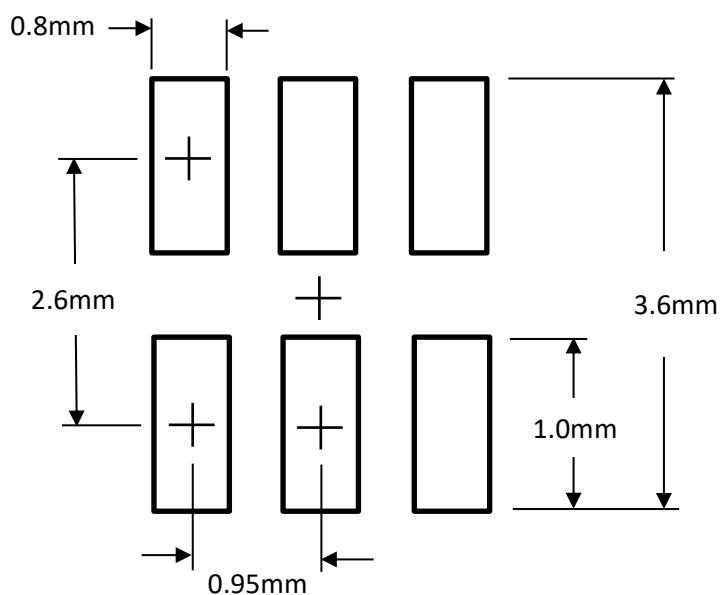


Package Outline Dimensions



SOT26 Package		
Dim	Min	Max
A	1.05	1.25
A1	0.00	0.10
A2	1.05	1.15
b	0.30	0.50
c	0.10	0.20
D	2.82	3.02
E	1.50	1.70
E1	2.65	2.95
e	0.95 typ	
e1	1.80	2.00
L	0.30	0.60
All Dimensions in mm		

Suggested Soldering Pad Layout





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