

**Uni-directional Automotive  
ESD Protection Array****Peak Pulse Power: 80 Watts**  
**Reverse Working Voltage: 5V****Description**

The AH05C325V0UL has been specifically designed to protect sensitive components which are connected to power, data and transmission lines from overvoltage caused by ESD (electrostatic discharge).



**Features**

- Peak Pulse Power : P<sub>pp</sub> = 80W (t<sub>p</sub>=8/20us)
- Reverse Working Voltage : 5V
- Protects Two Data Lines
- Low leakage current
- IEC 61000-4-2 (ESD) : ±20kV(Contact) / ±25kV(Air)
- High reliability and automotive grade (AEC-Q101 qualified)

**Applications**

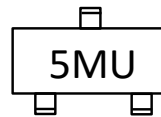
- CAN Bus
- Electronic Control Units
- Body Control Units
- Automotive Applications

**Mechanical Data**

- Case: SOT23 Package
  - Case Material: "Green" Molding Compound UL Flammability Classification Rating 94V-0
  - Component in accordance to RoHS
  - Halogen Free
- Note: Products with logo  or  are made by HY Electronic (Cayman) Limited.

**Ordering Information**

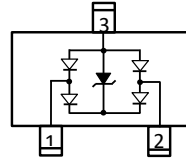
- Package : SOT23
- Reel Size : 7 (inches)
- Quantity Per Reel : 3,000 pcs
- Quantity One Box : 45,000 pcs
- Quantity One Carton : 180,000 pcs

**Marking Information**

" 5MU " = Product Type Marking Code

**Package Outline**

SOT23 Top View

**Device Schematic & PIN Configuration**

Pin Assignment	
1, 2	Input lines
3	Ground

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

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation (8/20 us)	P <sub>PP</sub>	80	W
Peak Pulse Current (8/20 us)	I <sub>PP</sub>	5	A
ESD Protection- Contact (Standard IEC 61000-4-2)	V <sub>ESD</sub>	±20	k V
ESD Protection- Air (Standard IEC 61000-4-2)		±25	
Operating Temperature Range	T <sub>J</sub>	-55 to +150	° C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	° C

**Electrical Characteristics**

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Reverse Working Voltage	Pin1 or Pin2 to Pin3	V <sub>RWM</sub>	-	-	5	V
Reverse Breakdown Voltage	I <sub>T</sub> = 1mA, Pin1 or Pin2 to Pin3	V <sub>B</sub>	6	-	9	V
Reverse Current	V <sub>R</sub> =5V, Pin1 or Pin2 to Pin3	I <sub>R</sub>	-	-	0.2	uA
Reverse Clamping Voltage	I <sub>PP</sub> =1A, (8/20us) Pin1 or Pin2 to Pin3	V <sub>C</sub>	-	-	9	V
	I <sub>PP</sub> =5A, (8/20us) Pin1 or Pin2 to Pin3		-	-	16	
Junction Capacitance	V <sub>R</sub> =0V, F=1MHz, between I/O pins, between Pin1 and Pin2	C <sub>J</sub>	-	0.3	0.4	pF
Junction Capacitance	V <sub>R</sub> =0V, F=1MHz, any I/O pins to ground, between pin1 or pin2 to pin3	C <sub>J</sub>	-	0.6	0.8	pF



## Rating and Characteristic Curves

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

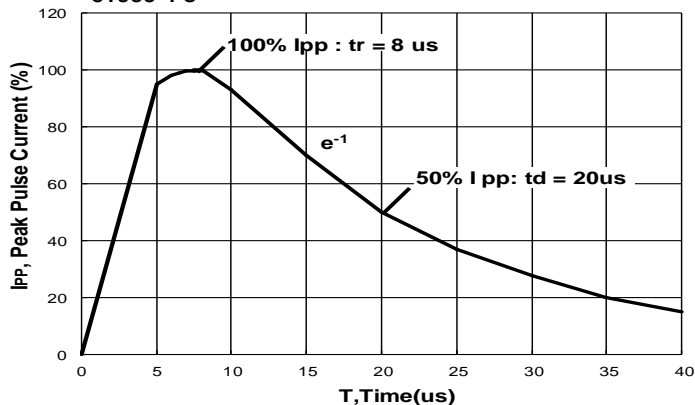


FIG.2 - Power Dissipation Versus Pulse Time

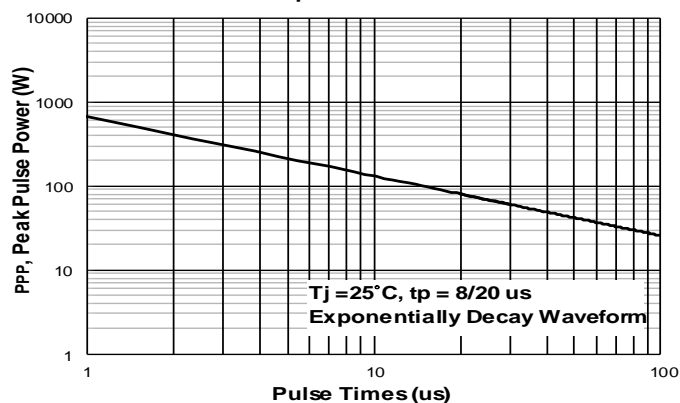


FIG.3 - Peak Pulse Power Versus Tj

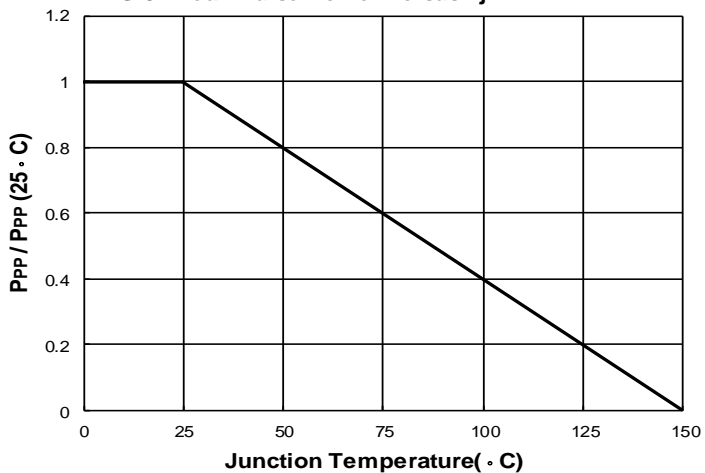
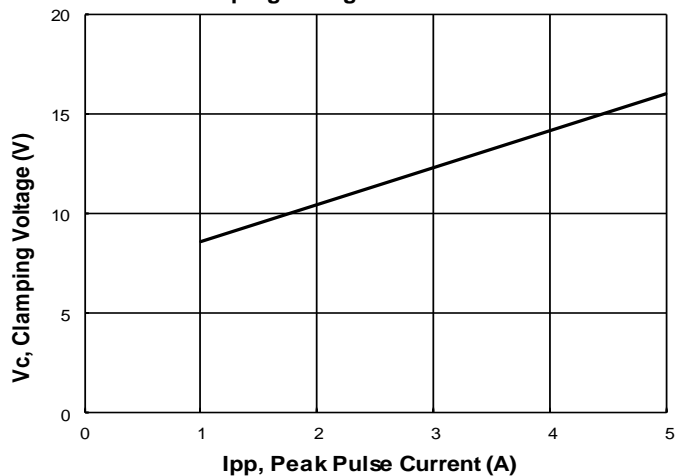
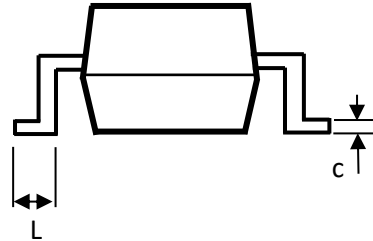
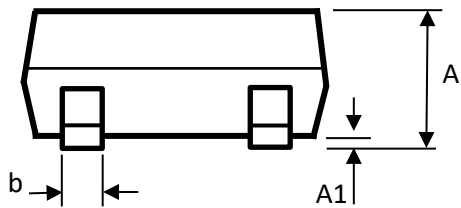
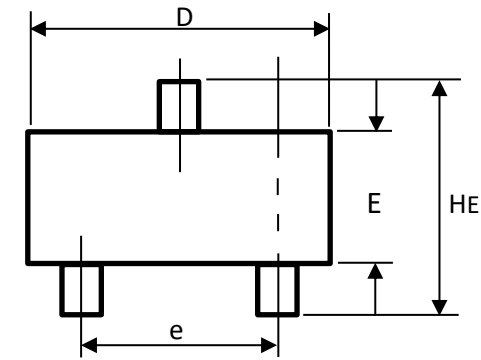


FIG.4 - Clamping Voltage Characteristic



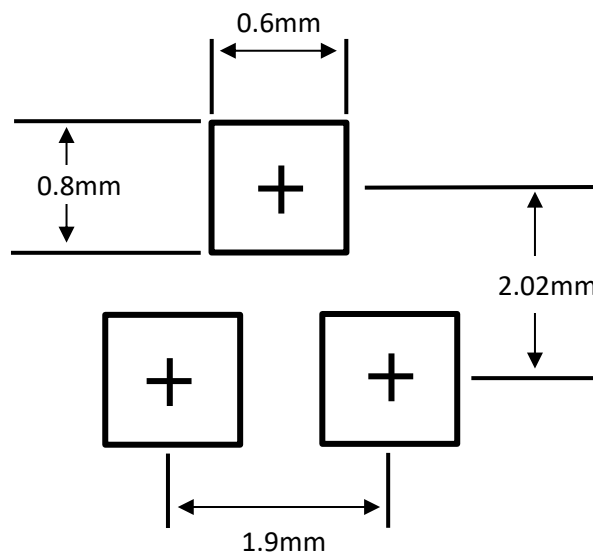


## Package Outline Dimensions



SOT23 Package		
Dim	Min	Max
A	0.90	1.15
A1	0.00	0.10
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
e	1.80	2.00
L	0.30	0.50
HE	2.25	2.55
All Dimensions in mm		

## Suggested Soldering Pad Layout





## Disclaimer

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