

## Description

The ASH24E2BA is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time. The ASH24E2BA is suited for using in computers, printers, business machines, communication systems, medical equipment and other applications.



## Mechanical Characteristics

- SOT-23
- ROHS/ Compliant
- Halogen free
- Molding compound flammability rating: UL 94V-0
- Marking: Part number
- Packing: Tape and Reel per EIA 481

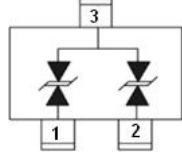
## Features

- IEC 61000-4-2 (ESD)
  - $\pm 30\text{kV}$  Contact Discharge
  - $\pm 30\text{kV}$  Air Discharge
- IEC 61000-4-5 (Lightning)
  - 7 A (8/20us)
- IEC 61000-4-4 EFT Protection
  - 40A (5/50ns)
- Halogen free and RoHS compliant
- Protects two channels I/O line
- AEC-Q101 qualified
- Low leakage current

## Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants
- Notebooks / Desktops / Servers
- Portable Instrumentation
- Network, telecom
- Switch Systems
- CAN Bus

## Dimensions and Pin Configuration

Pin	Name	Description	Circuit Diagram
1-3	IO1	Connect to IO	
2-3	IO2	Connect to IO	

## Ordering Information

Part No.	Package	Material	Packing	Quantity per reel	Flammability	Reel Size
ASH24E2BA	SOT-23	Halogen free	Tape&Reel	3000PCS	UL 94V-0	7 inches

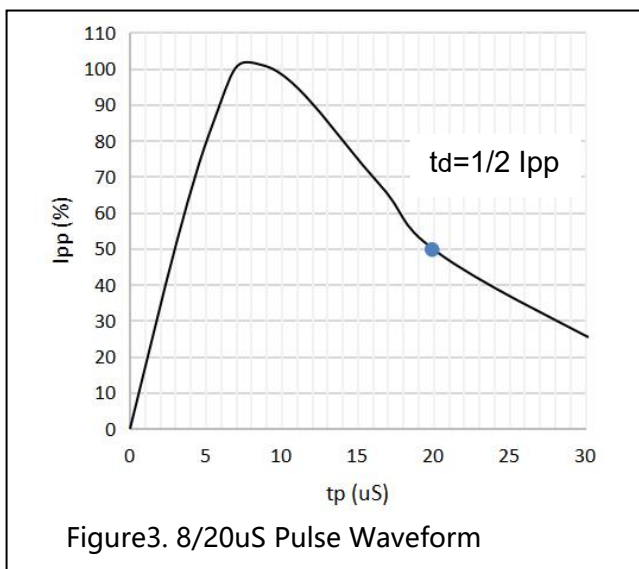
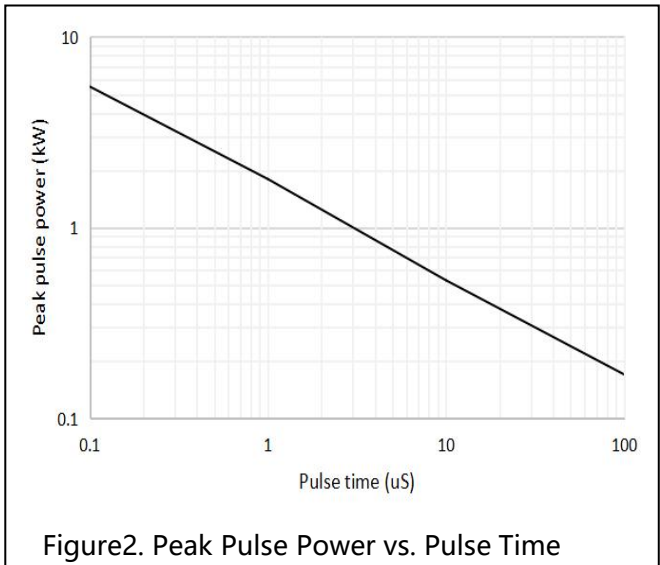
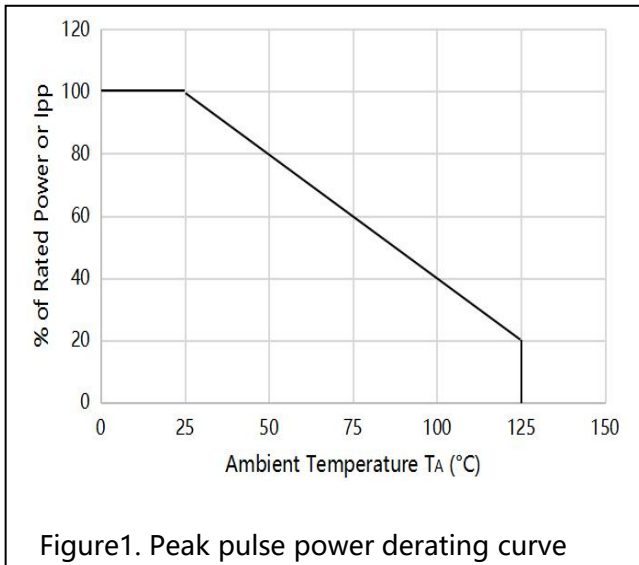
## Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power ( $t_p=8/20\mu\text{s}$ )@25°C	$P_{pk}$	-	400	W
ESD (IEC61000-4-2 air discharge) @25°C	$V_{ESD}$	-	±30	kV
ESD (IEC61000-4-2 contact discharge) @25°C	$V_{ESD}$	-	±30	kV
Junction temperature	$T_J$	-	125	°C
Operating temperature	$T_{OP}$	-40	125	°C
Storage temperature	$T_{STG}$	-55	150	°C
Lead temperature	$T_L$	-	260	°C

Electrical Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise specified)

PART NUMBER	DEVICE MARKING	$V_R$ (V) (max.)	$V_B$ (V) (min.)	$I_T$ (mA)	$V_C@1A$ (V) (max.)	$V_C$ (V)		$I_R$ ( $\mu\text{A}$ ) (max.)	$C_T$ (pF) (typ.)
						(max.)	(@A)		
ASH24E2BA	C24	24.0	25.5	1	31.0	50	9	0.2	30

Typical Performance Characteristics ( $T_A=25^\circ\text{C}$  unless otherwise Specified)



Applications Information

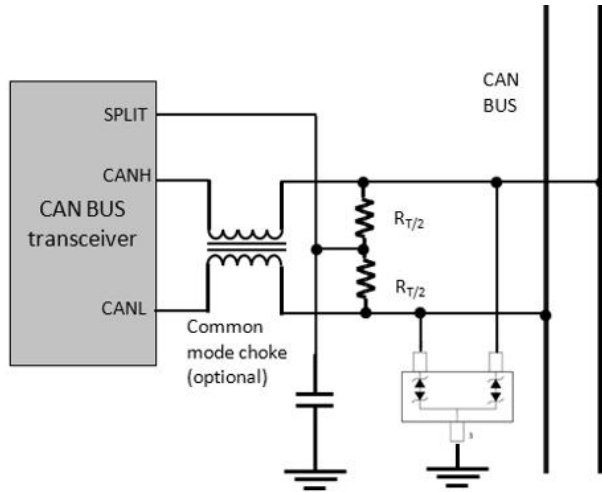
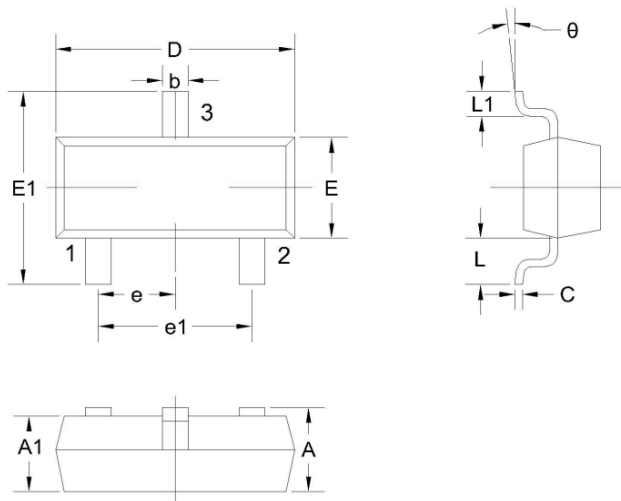


Figure4. CAN Bus protection ASH24E2BA

Package Outline Drawing

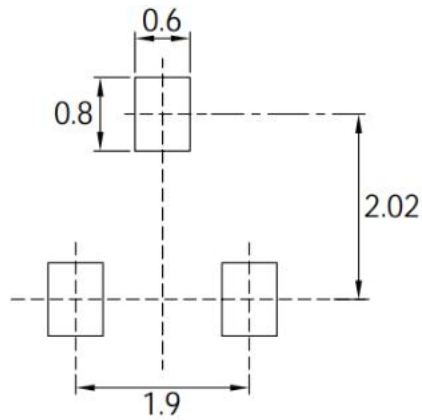
Unit: mm, tolerance +/-0.05mm



Dimensions in Millimeters					
Symbol	Min.	Max.	Symbol	Min.	Max.
A	0.9	1.15	e1	1.80	2.00
A1	0.9	1.05	L	0.55REF	
b	0.30	0.50	L1	0.30	0.50
C	0.08	0.15	θ	0°	8°
D	2.80	3.00			
E	1.20	1.40			
E1	2.25	2.55			
e	0.95TYP				

Table-5 Product dimensions

Recommended Land Pattern



Note:

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference only

Revision history of Specification

Version	Change Items	Effective Date
1.0	Initial Release	8-Oct-2021