

JEB05UCDS-A Bidirectional TVS Diode for ESD Protection

Features and benefits

- ✧ Small Body Outline Dimensions :0.6mm×0.3mm
- ✧ Protects one bi-directional I/O line
- ✧ Low clamping voltage
- ✧ Low operating voltage: 5.0V
- ✧ Low Capacitance:0.5 pF
- ✧ ROHS compliant

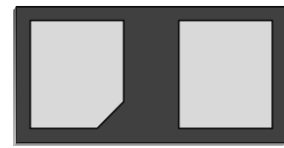
Application information

- ✧ Consumer electronics DC power supply
- ✧ Low frequency signal transmission line
- ✧ Communication systems

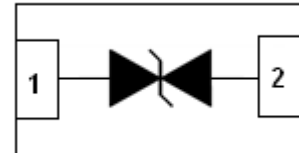
Protection solution to meet

- ✧ IEC61000-4-2 (ESD) ±20kV (air), ±18kV (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (Lightning) 5A (8/20 μs)

Pin Information and Graphic symbol



DFN0603-D



symbol

Mechanical Characteristics

- ✧ DFN0603-D Package
- ✧ Molding Compound Flammability Rating : UL 94V-O
- ✧ Quantity Per Reel : 15,000pcs
- ✧ Lead Finish : Lead Free
- ✧ Marking Code: D/M

Absolute Maximum Ratings (T_A=25 °C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T _{stg}	-55 to +150	°C
Operating junction temperature range	T _j	-55 to +125	°C
Lead Soldering Temperature	T _L	260 (10 sec.)	°C
ESD per IEC 61000-4-2 (Air)	V _{ESD}	+/- 20	kV
ESD per IEC 61000-4-2 (Contact)		+/- 18	

Electrical Characteristics (TA=25°C)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Working Voltage	V_R				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1mA$	6.0		10	V
Reverse Leakage Current	I_R	$V_R = 5.0V$			1.0	μA
Peak Pulse Current	I_{pp}	$t_p = 8/20\mu s$			5	A
Clamping Voltage	V_C	$I_{PP} = 1A, t_p = 8/20\mu s$			16	V
		$I_{PP} = 5A, t_p = 8/20\mu s$			27	V
Junction Capacitance	C_J	$V_R = 0V, f = 1MHz$		0.5	0.6	pF

Ratings and V-I Characteristics Curves (TA=25 °C, unless otherwise noted)

FIG.1: V- I curve characteristics (Bi-directional)

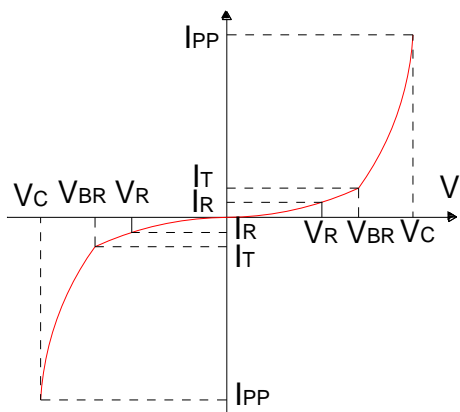


FIG.2: Pulse Waveform

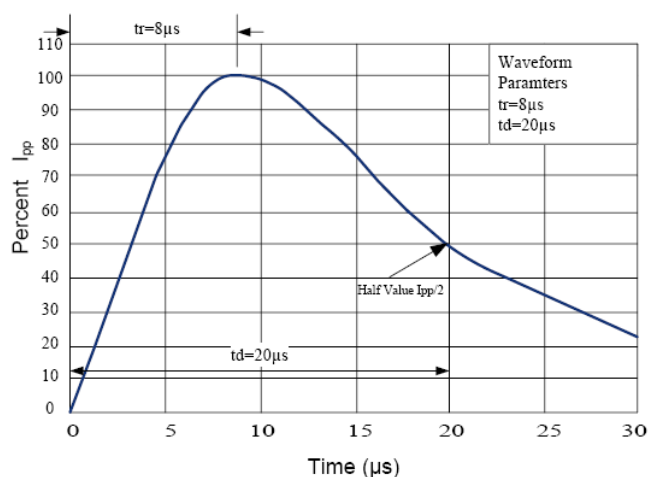


FIG.3: Pulse derating curve

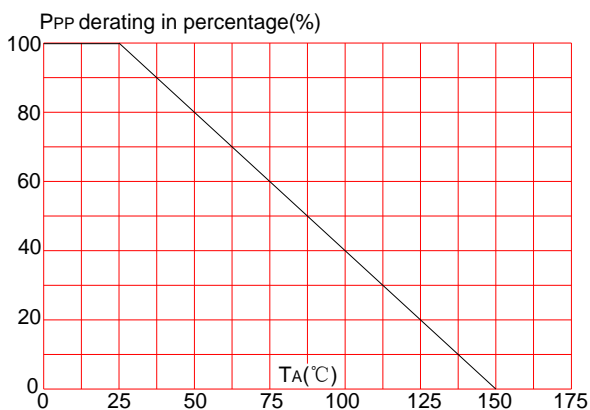
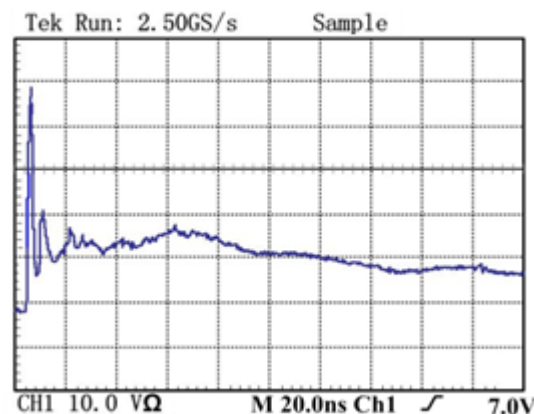

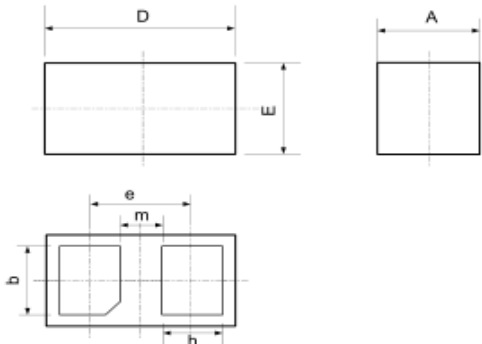


FIG.4: ESD Clamping (8KV Contact)

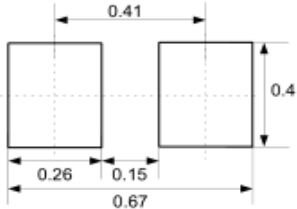


Package Mechanical Data


Outline Drawing –DFN0603-D

PACKAGE OUTLINE		 DFN0603-D	
			
SYMBOL	MILIMETER		
	MIN	MAX	
A	0.28	0.32	
D	0.55	0.65	
E	0.25	0.35	
b	0.20	0.30	
e	0.350		
m	0.165		
h	0.14	0.24	

Land Pattern



Marking Code

Part Number	Marking Code
JEB05UCDS-A	PIN 1  D = Specific Device Code M = Month Code