

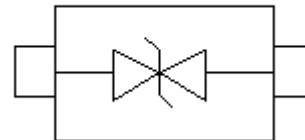
TQTHDB226V0

Thyristors Solid Protection Device Bidirectional transient voltage suppressors

● Description

The TQTHDB226V0 is designed with TECH CHIP Punch-Through process TVS technology to protect voltage sensitive components from ESD. Excellent clamping capability, low leakage, and fast response time provide best in class protection on designs that are exposed to ESD. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space comes at a premium. Also because of its low capacitance, it is suited for use in high frequency designs such as USB 2.0 high speed, USB 3.0 super speed, VGA, DVI, HDMI, ESATA and other high speed line applications.

● PIN configuration



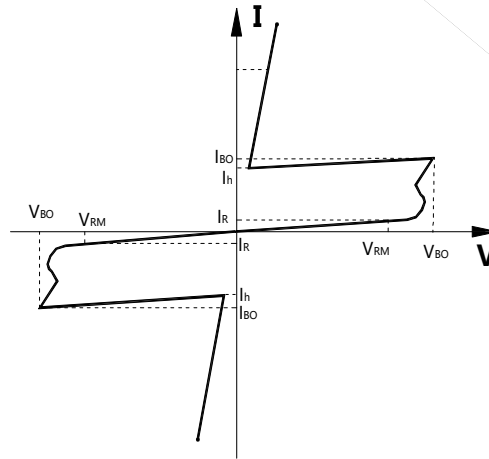
SMB

● Features

- For surface mounted applications to optimize board space
- Low profile package
- Bidirectional crowbar protection
- Low leakage current : $I = 5\mu\text{A}$ max
- Low on-state voltage
- Low Capacitance
- Response Time is $< 1\mu\text{s}$
- YD/T 950 IEC 61000-4-5
- GR 1089 Intra-building
- Solid-state silicon technology
- Meets MSL 1 Requirements
- ROHS compliant
- TECH CHIP technology

● **Electronic Parameter**

Symbol	Parameter
V_{RM}	Stand-off voltage
V_{BR}	Breakdown voltage
V_{BO}	Switching Voltage
I_{BO}	Breakover current
I_{RM}	Leakage current at V_{RM}
I_{PP}	Peak pulse current
I_H	Holding current
V_T	On-state Voltage at I_T
C_O	Off-state Capacitance



● **Absolute maximum rating @TA=25°C**

Symbol	Parameter	Value	Units
I_{PP}	Non-repetitive peak pulse current	10/1000 us	80
		5/310 us	100
		8/20 us	250
V_{PP}	Non-repetitive peak pulse voltage	10/700us	4000
V_{ESD}	ESD Rating per IEC61000-4-2: Contact Air	8	KV
		15	
T_s	Storage temperature range	-40 to +150	°C
T_j	Maximum junction temperature	150	°C

● **Electrical Characteristics @TA=25°C**

Type	V_{RM}	I_{RM}	V_{BO}	I_{BO}	V_T	I_T	C_O	I_H
	Min.	Max.		Max.	Max.		Typ.	Typ.
	V	μA	V	mA	V	A	pF	mA
TQTHDB226V0	6	5	25	800	4	2.2	70	50

● Typical Performance Characteristics

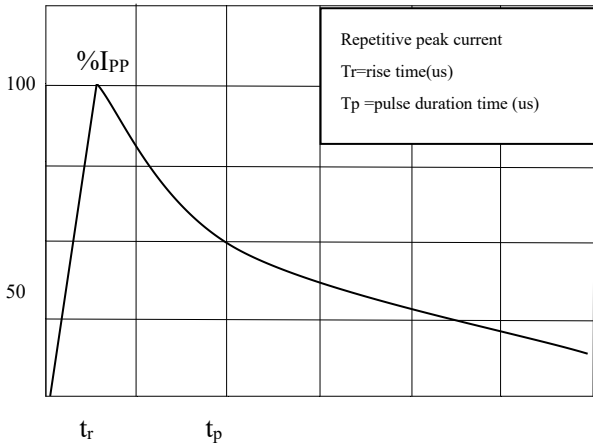


Fig.1 Pulse Waveform (5/310us)

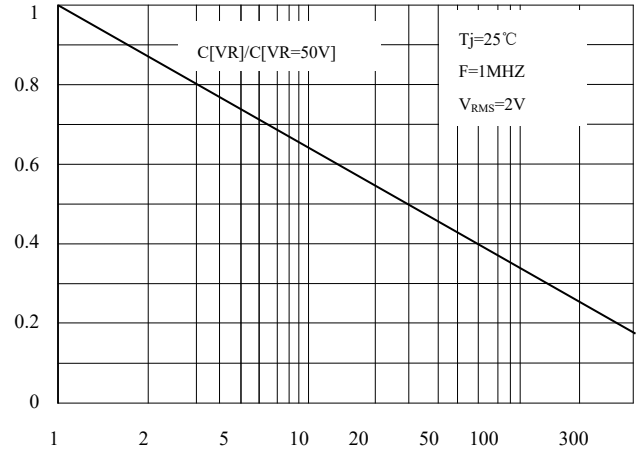


Fig. 2 Relation Variation of Junction Capacitance Versus Reverse Voltage Applied (Typical Values)

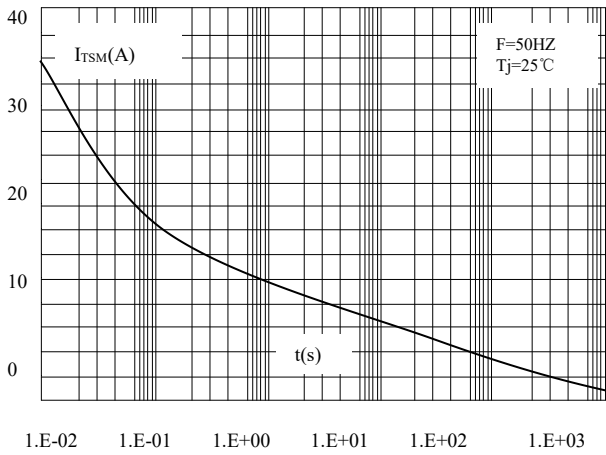


Fig.3 Non Repetitive Surge Peak On-State Current Versus Overload Duration

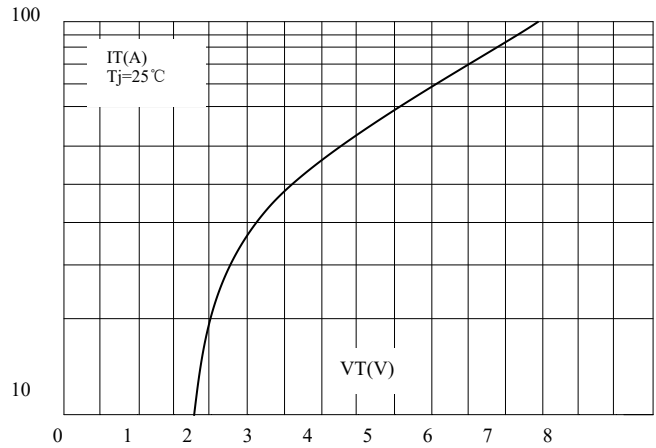


Fig.4 On-State Voltage Versus On-State Current (Typical Values)

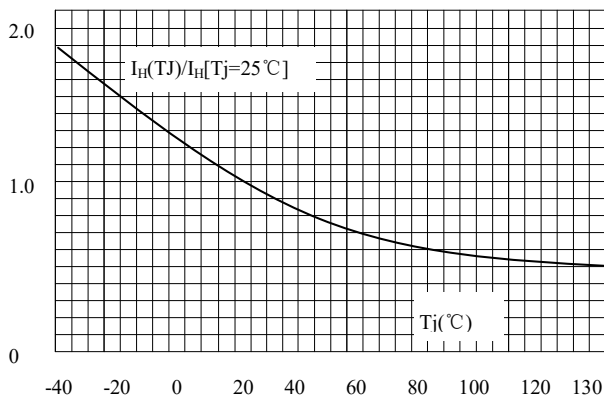


Fig.5 Relative Variation of Hold Current Versus Junction Temperature

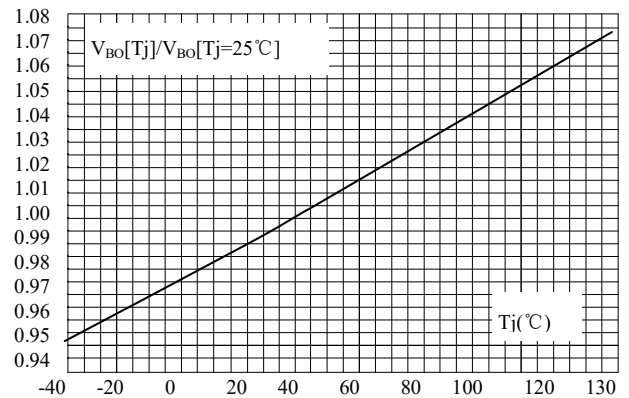


Fig.6 Relative Variation of Break Over Voltage Versus Junction Temperature

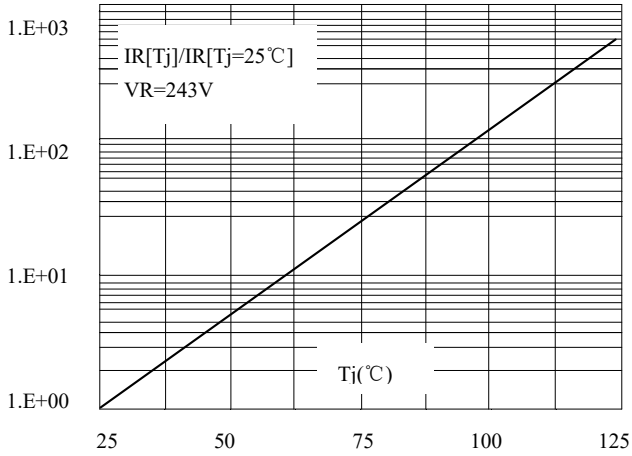


Fig.7 Relative Variation of Leakage Current Versus Reverse Voltage (Typical Values)

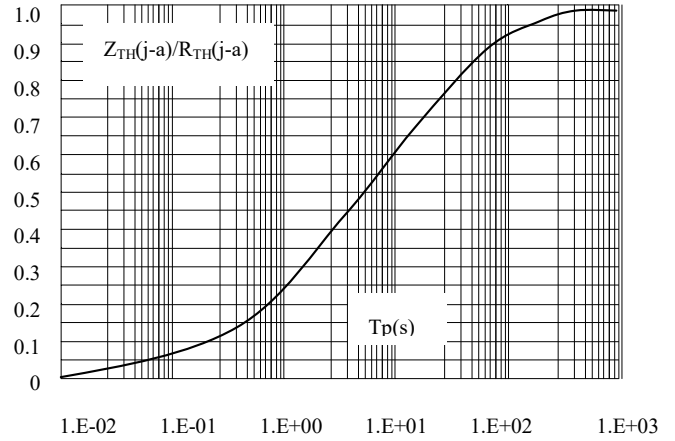
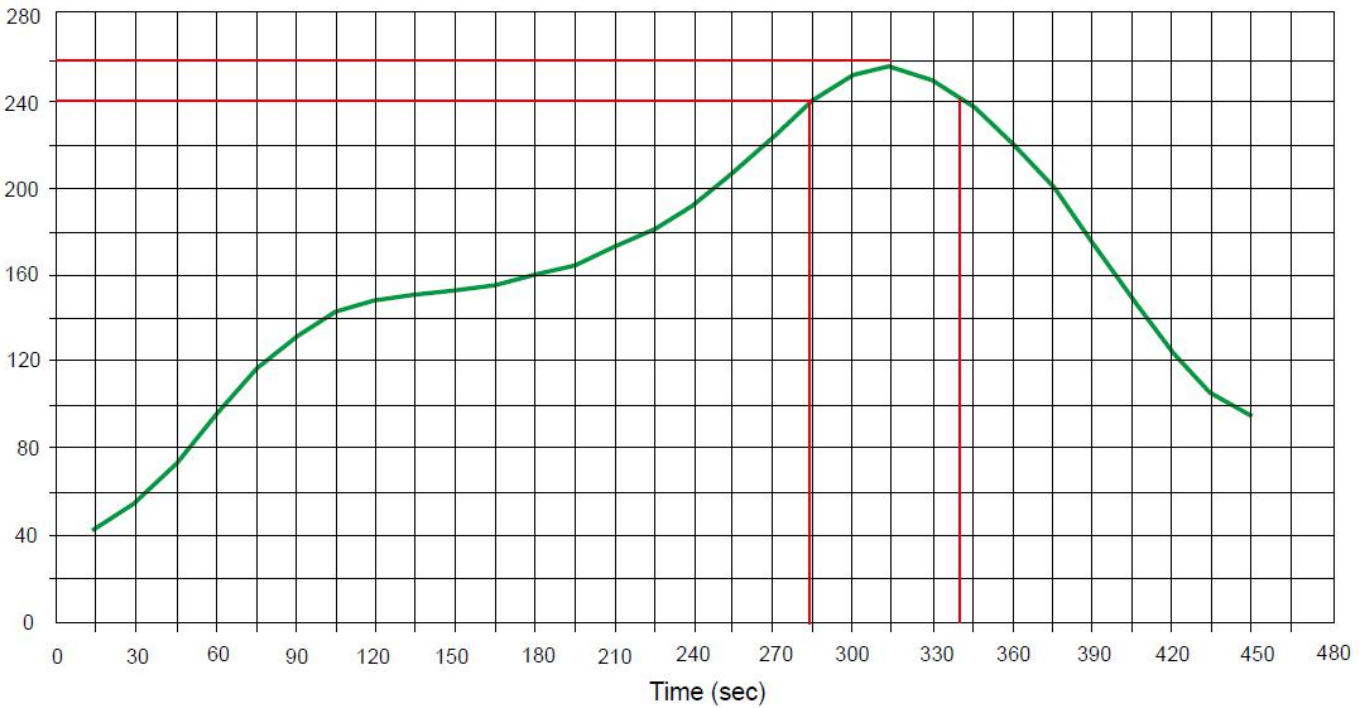


Fig.8 Variation of Thermal Impedance Junction To Ambient Versus Pulse Duration

- **Solder Reflow Recommendation**

Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec



- **Package Information**

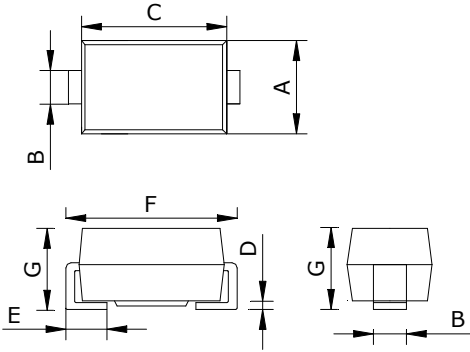
Ordering Information

Device	Package	Qty per Reel	Reel Size
TQTHDB226V0	SMB	2500	13 Inch

Mechanical Data

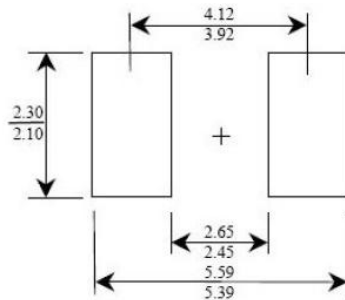
Case:SMB

Case Material: Molded Plastic. UL Flammability



DIM	Millimeters		
	Min	Nom	Max
A	3.30	3.60	3.94
B	1.80	2.00	2.21
C	4.05	4.45	5.30
D	0.051	0.20	0.203
E	0.76	1.14	1.52
F	5.08	5.25	5.59
G	2.05	2.30	2.45

Recommended Pad outline



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