

## TQTHDB326V0

Thyristors Solid Protection Device Bidirectional transient voltage suppressors

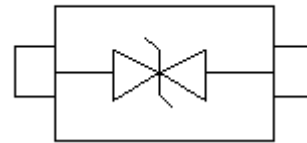
### ● Description

The TQTHDB326V0 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.

### ● 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
- Solid-state silicon technology
- Meets MSL 1 Requirements
- ROHS compliant
- TECH CHIP technology

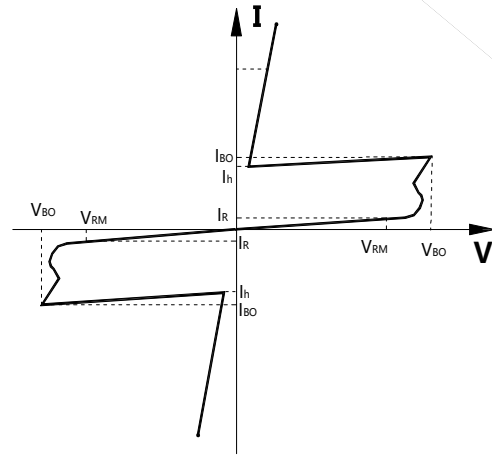
### ● PIN configuration



**SMB**

● **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



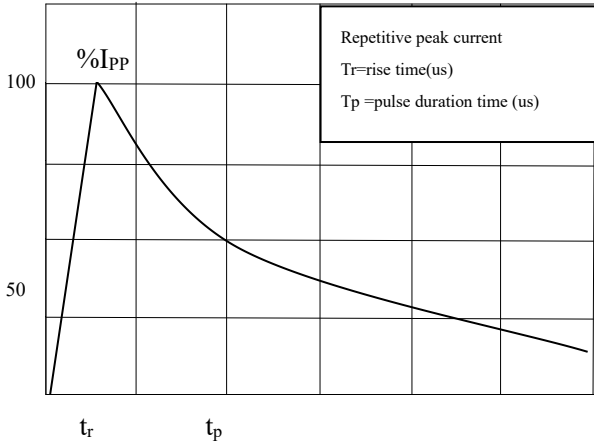
● **Absolute maximum rating @TA=25°C**

Symbol	Parameter	Value	Units
$I_{PP}$	Non-repetitive peak pulse current	10/1000 us	100
		5/310 us	150
		8/20 us	400
$V_{PP}$	Non-repetitive peak pulse voltage	10/700us	6000
$V_{ESD}$	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

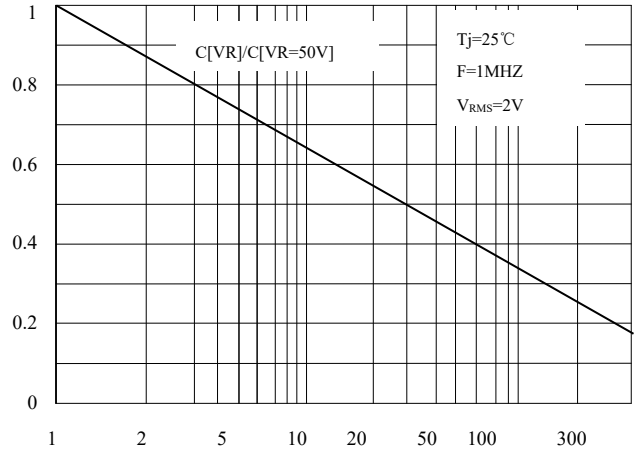
● **Electrical Characteristics @TA=25°C**

Type	$V_{RM}$	$I_{RM}$	$V_{BO}$	$I_{BO}$	$V_T$	$I_T$	$C_O$	$I_H$
	Min.	Max.		Max.	Max.		Typ.	Typ.
	V	$\mu A$	V	mA	V	A	pF	mA
TQTHDB326V 0	6	5	25	800	4	2.2	100	50

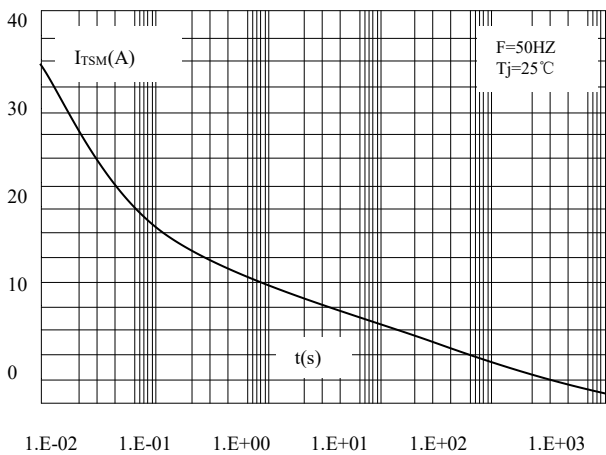
## ● Typical Performance Characteristics



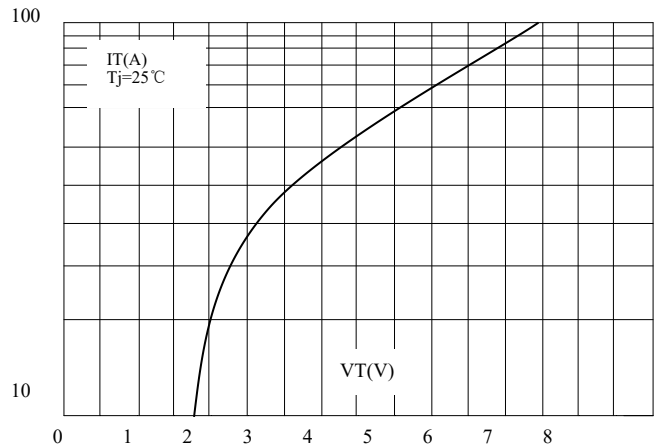
**Fig.1 Pulse Waveform (5/310us)**



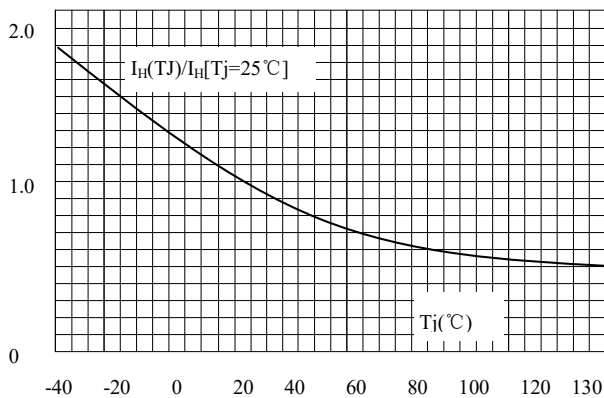
**Fig. 2 Relation Variation of Junction Capacitance Versus Reverse Voltage Applied (Typical Values)**



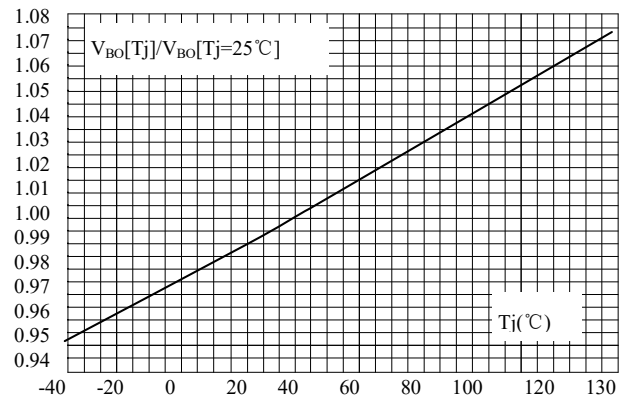
**Fig.3 Non Repetitive Surge Peak On-State Current Versus Overload Duration**



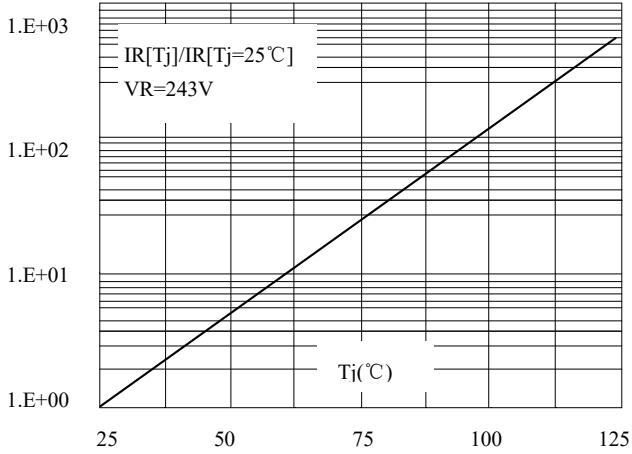
**Fig.4 On-State Voltage Versus On-State Current (Typical Values)**



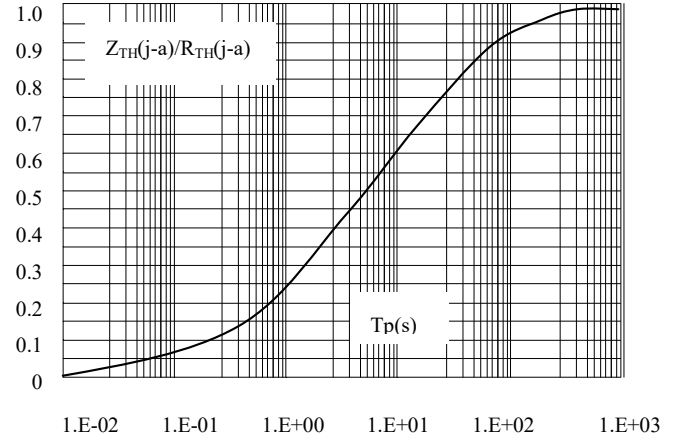
**Fig.5 Relative Variation of Hold Current Versus Junction Temperature**



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



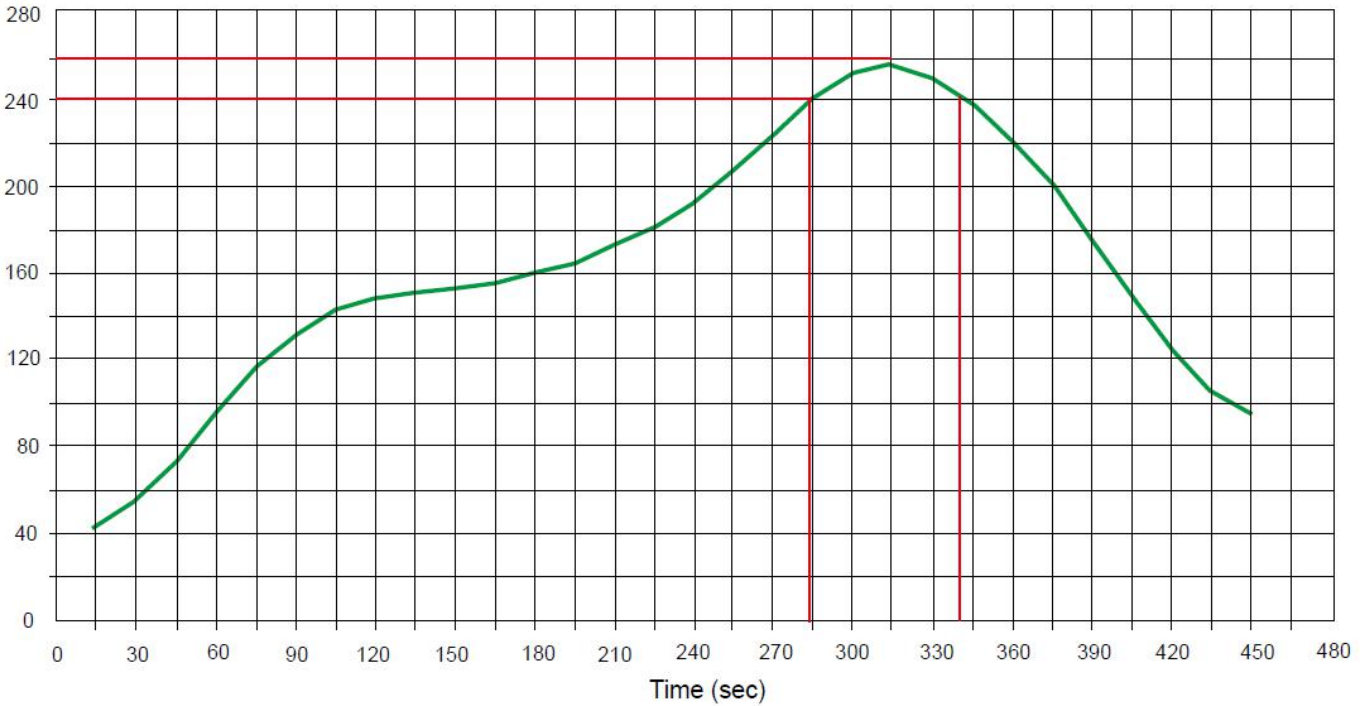
**Fig.7 Relative Variation of Leakage Current Versus Reverse Voltage (Typical Values)**



**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**

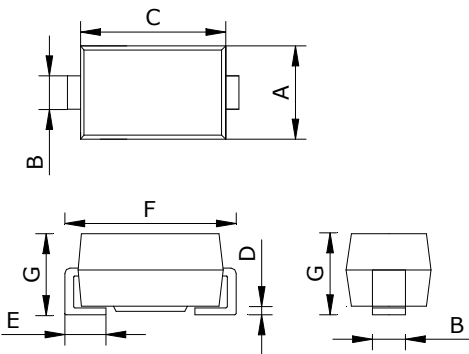
### Ordering Information

Device	Marking	Package	Qty per Reel	Reel Size
TQTHDB326V0	P008C	SMB	2500	13 Inch

### Mechanical Data

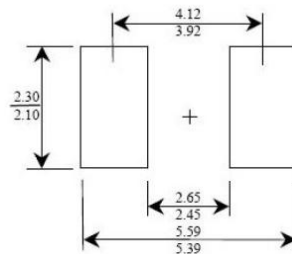
Case:SMB

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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RANGE.