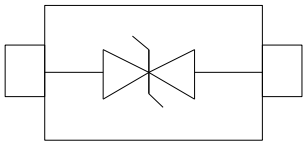
SSCT31012DB

Thyristors Solid Protection Device Bidirectional transient voltage suppressors

- **Features**
  - ✧ For surface mounted applications to optimize board space
  - ✧ Low profile package
  - ✧ Bidirectional crowbar protection
  - ✧ Low leakage current : I = 5uA max
  - ✧ Low on-state voltage
  - ✧ Low Capacitance
  - ✧ Response Time is < 1us
  - ✧ YD/T 950 IEC 61000-4-5
  - ✧ YD/T 993 ITU K.20/21
  - ✧ YD/T 1082 TIA-968-A
  - ✧ GR 1089 Intra-building
  - ✧ Solid-state silicon technology
  - ✧ Meets MSL 1 Requirements
  - ✧ ROHS compliant

- **PIN configuration**



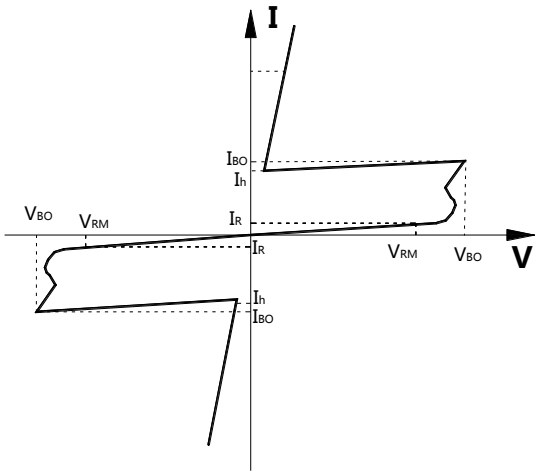
Topview

- **Applications**
  - ✧ Hand−Held Portable Applications
  - ✧ Networking and Telecom (Ethernet 10/100/1000 Base T)
  - ✧ USB Interface
  - ✧ Automotive Electronics
  - ✧ Serial and Parallel Ports
  - ✧ Notebooks, Desktops, Servers

- **Machanical data**
  - ✧ Lead finish:100% matte Sn(Tin)
  - ✧ Mounting position: Any
  - ✧ Qualified max reflow temperature:260℃
  - ✧ Device meets MSL 1 requirements
  - ✧ Pure tin plating: 7 ~ 17 um
  - ✧ Pin flatness:≤3mil

- **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℃**

Parameter		Symbol	Value	Unit
Non-repetitive peak pulse voltage	10/700us	V_{PP}	6000	V
ESD Rating per IEC61000-4-2: Contact Air		V_{ESD}	8 15	KV
Storage temperature range		Ts	-40 to +150	℃
Maximum junction temperature		Tj	150	℃

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

**Other voltages may be available upon request.*

- **Electrical Characteristics @TA=25℃**

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
SSCT31012DB	275	5	400	800	4	2.2	35	150

- **Typical Performance Characteristics**

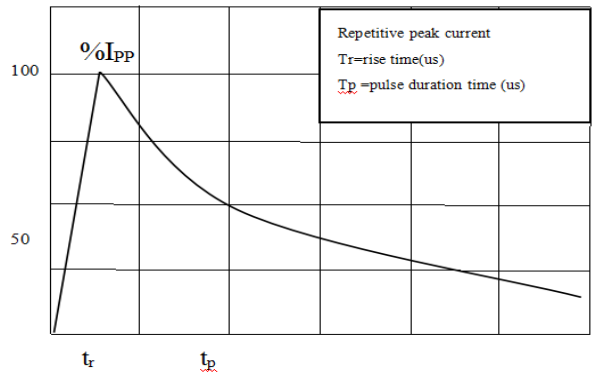


Fig.1 Pulse Waveform (10/1000us)

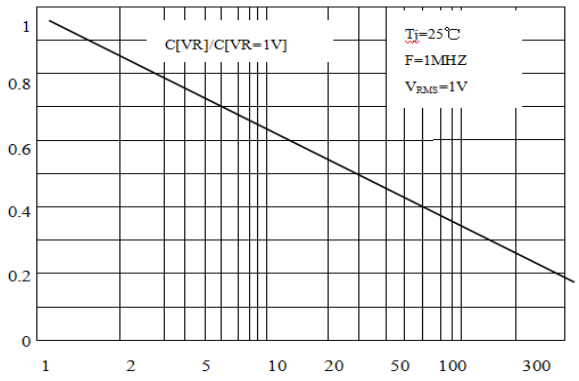


Fig. 2Relation Variation Of Junction Capacitance Versus Reverse Voltage Applied (Typical Values)

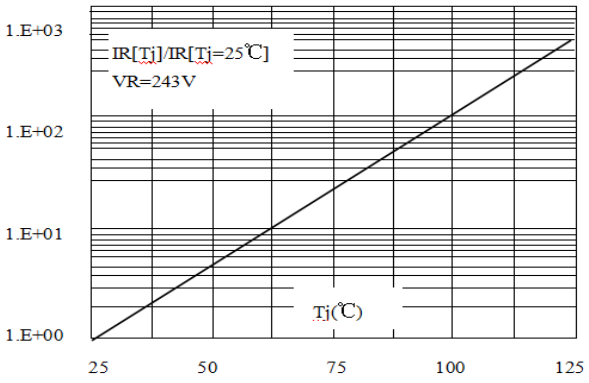


Fig.7 Relative Variation Of Leakage Current Versus Reverse Voltage (Typical Values)

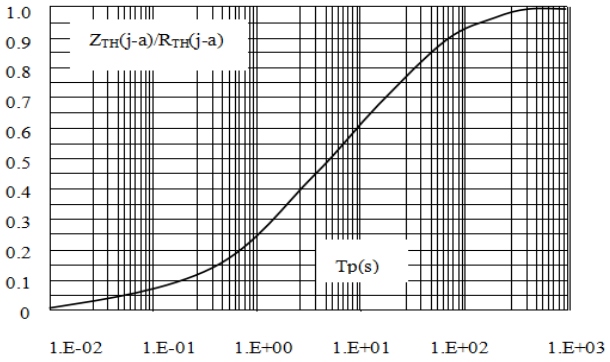


Fig.8 Variation Of Thermal Impedance Junction To Ambient Versus Pulse Duration

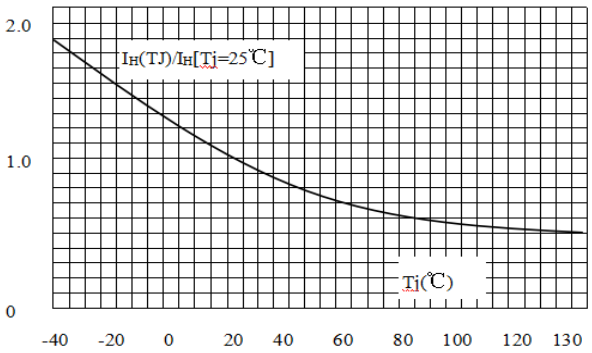


Fig.5 Relative Variation of Hold Current Versus Junction Temperature

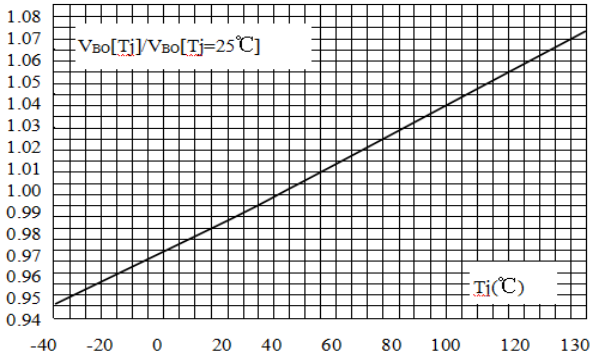


Fig.6 Relative Variation of Break Over Voltage Versus Junction Temperature

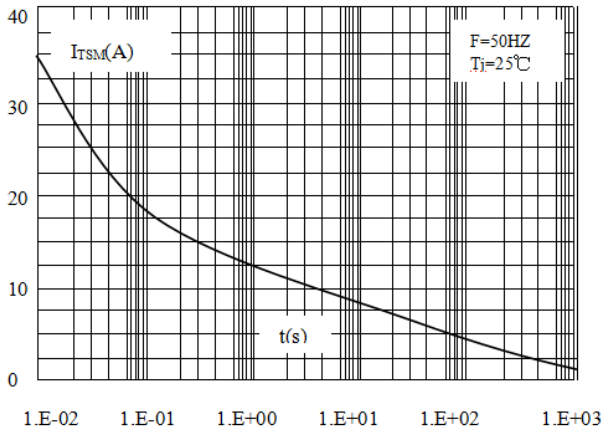


Fig.3 Non Repetitive Surge Peek On-State Current Versus Overload Duration

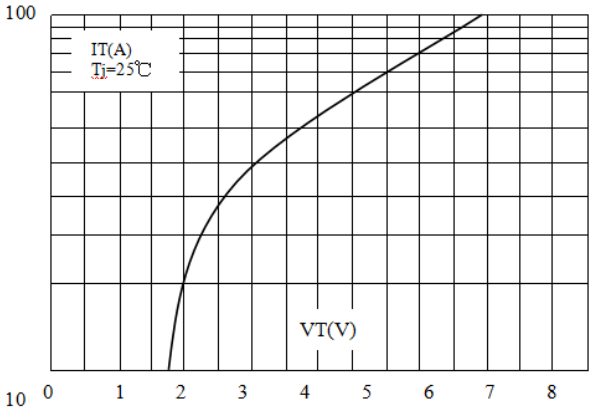
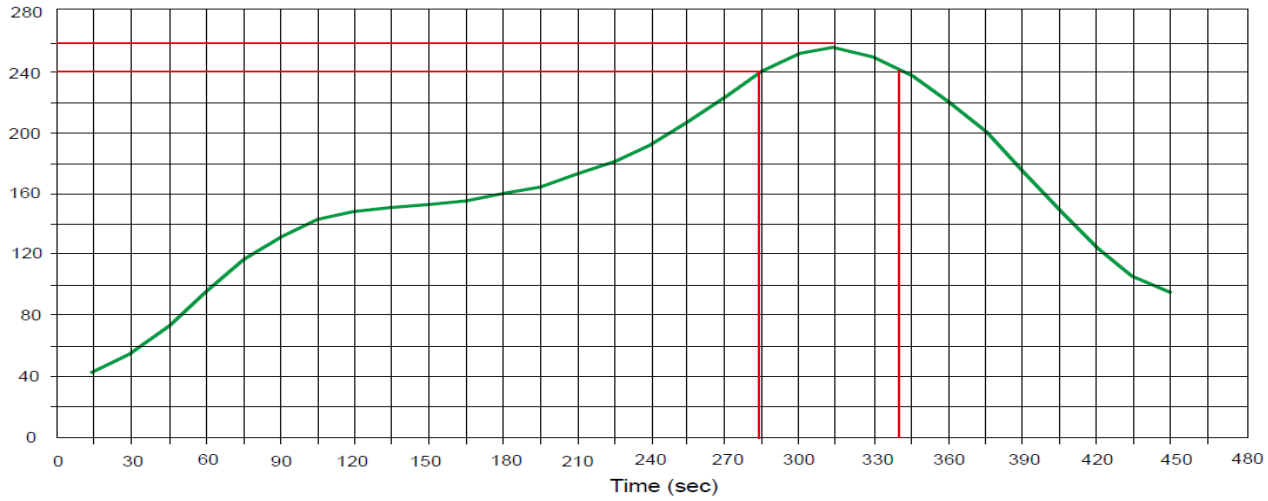


Fig.4 On-State Voltage Versus On-State Current (Typical Values)

- **Solder Reflow Recommendation**

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



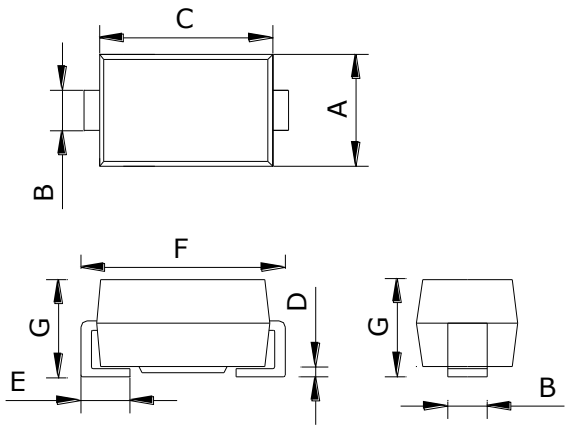
- **Package Information**

Ordering information

Device	Qty per Reel	Reel Size
SSCT31012DB	2500	13Inch

Mechanical Data

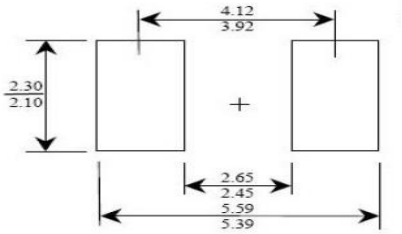
- Case: SMB
- Case Material: Molded Plastic. UL Flammability



SMB

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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