FEATURES

- Suitable for standard ISO7637-2 or ISO16750-2
- Low leakage current
- Typical failure mode is short from over-specified voltage or current
- Glass passivated chip junction in P600 Package
- Fast response time: typically less than 1.0ps from 0 Volts to V_{BR} min
- Matte tin lead–free Plated
- Excellent clamping capability
- Inductive load switching
- Alternator load dump
- GPS navigation system
- Automative instruments

R-6/P-600

Schematic Symbol

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS AND CHARACTERISTICS(T_A=25°C)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation at 10/1000μs waveform	P_{PPM}	12000	W
Peak pulse current of at 10/1000μs waveform	I_{PPM}	See Table	A
Steady state power dissipation at T_L=75°C	$P_{M(AV)}$	8.0	W

THERMAL CONSIDERATIONS

Parameter	Symbol	Value	Unit
Operating Junction Temperature	T_J	-55 to +125	°C
Storage Temperature Range	T_{STG}	55 to +150	°C
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	40	°C/W

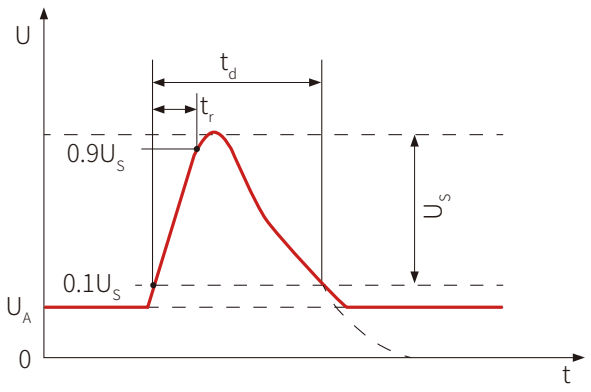
ELECTRICAL CHARACTERISTICS

Part Number	Device Marking Code	Reverse Stand-off Voltage	Breakdown Voltage Min.@I_T	Breakdown Voltage Max.@I_T	Test Current	Maximum Clamping Voltage @I_{PP}	Maximum Peak Pulse Current	Maximum Reverse Leakage @V_{RWM}
		V_{RWM}(V)	V_{BR}(V)	V_{BR}(V)	I_T(mA)	V_C(V)	I_{PP}(A)	I_R(uA)
SBT33CA	SBT33CA	33.0	36.7	40.6	5.0	53.3	225.1	2.0

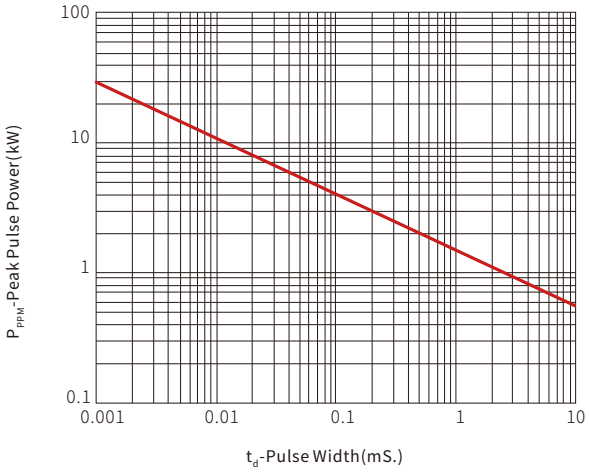
Part Number	Suitable ISO 7367-2 2004 5a test waveform							
	Clamping Voltage	Test Voltage Level		Resistance Level				
	Typ.(V)			0.5Ω	1Ω	2Ω	4Ω	8Ω
SBT33CA	47.0	174V	350ms	-	-	√	√	√

CHARACTERISTIC CURVES

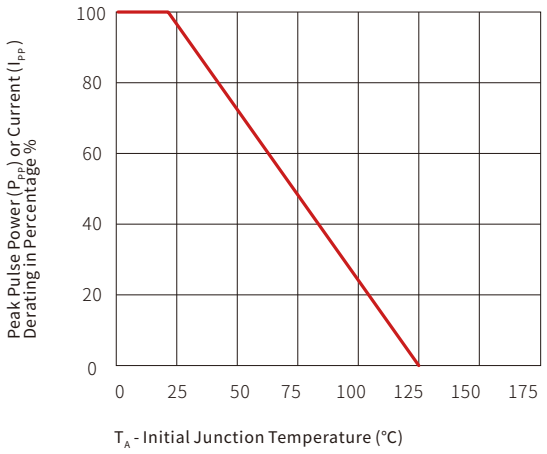
ISO7637-2,Pulsa 5a test waveform



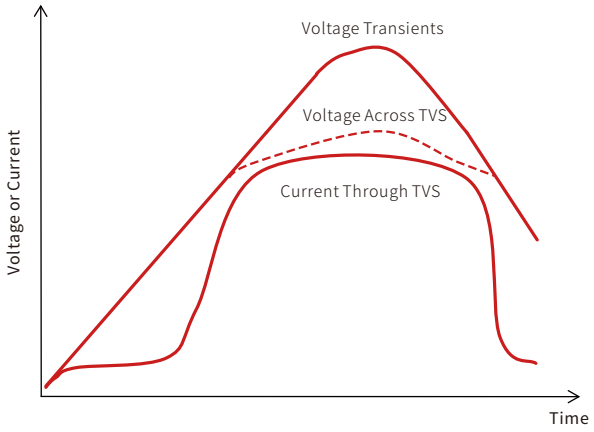
Peak Pulse Power Rating Curve



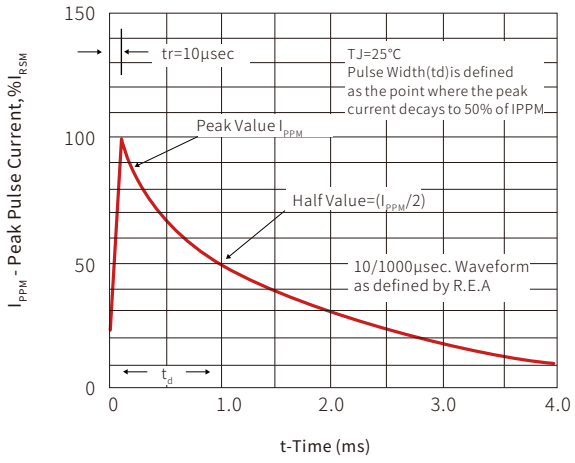
Pulse Derating Curve



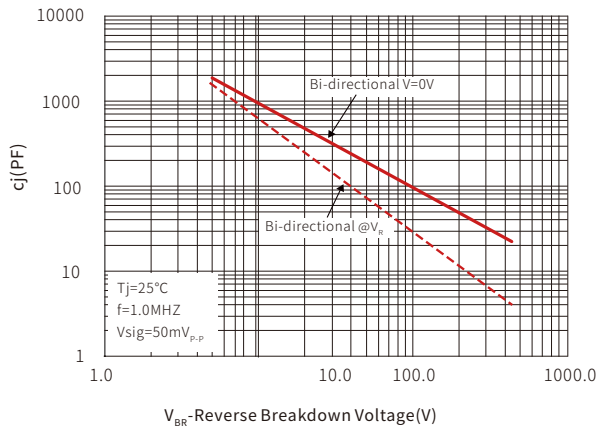
TVS Transients Clamping Waveform



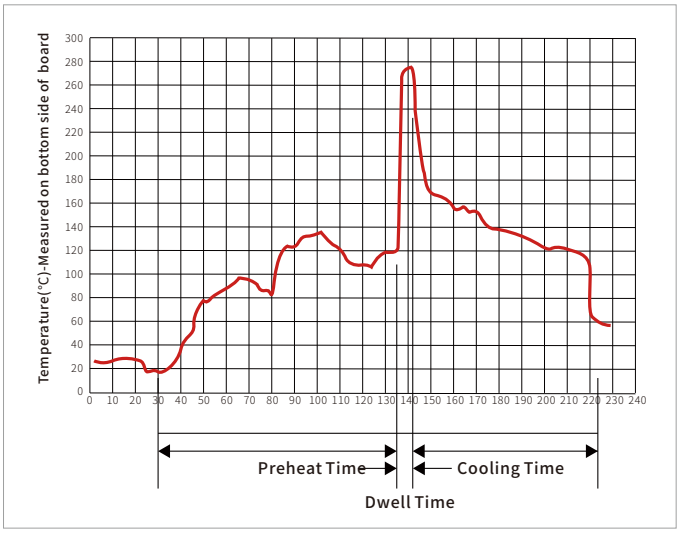
Pulse Waveform



Typical Junction Capacitance

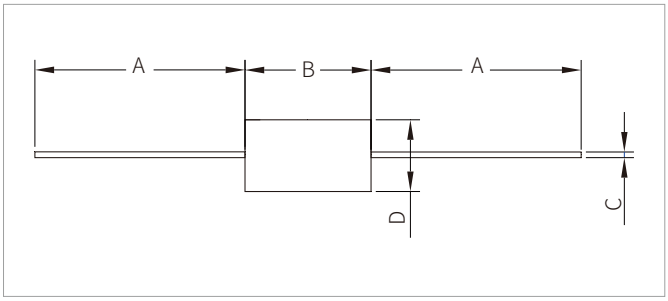


WAVE SOLDERING



Wave Parameter		Lead–free assembly
Pre Heat	Temperature Min	100°C
	Temperature Max	150°C
	Time(min to max)	60 – 180 secs
Solder pot Temperature		280°C Max
Solder Dwell Time		2-5 seconds

P600 PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.40	-	1.000	-
B	8.60	9.40	0.339	0.370
C	1.20	1.40	0.047	0.055
D	8.60	9.10	0.339	0.358

ORDERING INFORMATION

Part Number	Component Package	Quantity	Packaging Option
SBT33CA	R6/P600	800pcs	Box

Headquarters
No.3387 Shendu Road
Pujiang I&E Park
Minhang Shanghai China
201000

Hotline
400-021-5756

Web
Https://www.semiware.com

Sales Center
Tel: 86-21-3463-7458
Email: sales18@semiware.com

Customer Service
Tel: 86-21-5484-1001
Email: sales17@semiware.com

Technical Support
Tel: 86-21-3463-7654
Email: fae01@semiware.com

Complaint & Suggestions
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Ext: 8868
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Wechat

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