

## SPECIFICATION FOR APPROVAL

CUSTOMER \_\_\_\_\_

PART NO.        SBE250-145

APPLICATION \_\_\_\_\_

CUSTOMER P/N \_\_\_\_\_

ISSUE DATE     September 28, 2016

REV. NO         1.1

REV. DATE       April 17, 2020

FOR CUSTOMER APPROVAL	CHECKED BY
	APPROVED BY

### REVISED RECORD

REV. No.	REV. DATE	REVISED CONTENT
1.0	September 28, 2016	New Establish
1.1	April 17, 2020	Correct the tripping current ( $I_T$ ) parameter



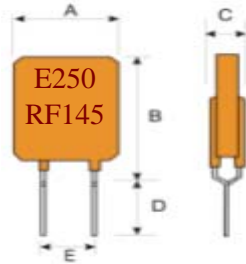
# Technical Data

## SBE250-145 P T C Resettable Specifications

### 1 Part Number

SBE250-145

### 2 Dimensions



A Max.	B Max.	C Max.	D Min.	E Typical	Lead $\Phi$
7.1 mm	11.0 mm	3.8 mm	4.7 mm	5.1 mm	0.6 mm

### 3 Electrical Characteristic

Part No.	I <sub>H</sub> (A)	I <sub>T</sub> (A)	V <sub>max op</sub> V <sub>ac</sub>	I <sub>max</sub> (A)	V <sub>max Interrupt</sub> V <sub>rms</sub>	T <sub>trip</sub>		Pd typ (W)	R <sub>Min</sub> ( $\Omega$ )	R <sub>max</sub> ( $\Omega$ )	R <sub>1max</sub> ( $\Omega$ )
						(A)	(S)				
SBE250-145	0.145	0.29	240	3.0	265.0	1.0	2.5	1.0	3.00	6.50	10.00

I<sub>H</sub> : Holding Current: maximum current at which the device will not trip in 25°C still air.

I<sub>T</sub> : Tripping Current minimum current at which the device will trip in 25°C still air.

V<sub>max</sub> : Maximum voltage device can withstand without damage at rated current.

I<sub>max</sub> : Maximum fault current device can withstand without damage at rated voltage.

T<sub>trip</sub> : Maximum time to trip(s) at assigned current.

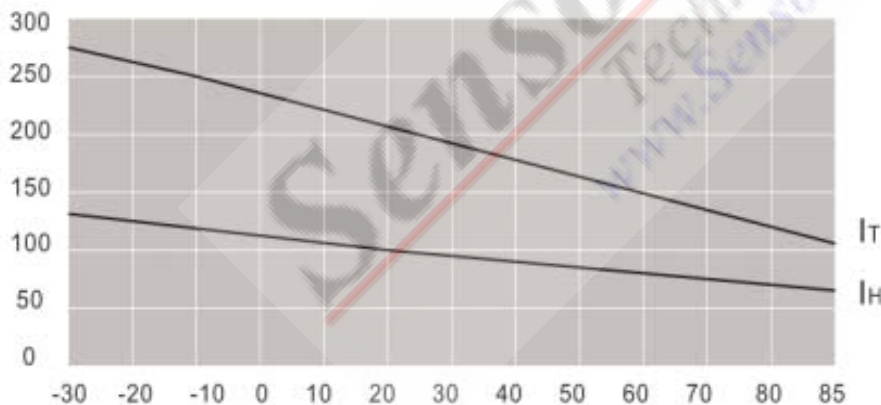
Pd typ : Rated working power.

R<sub>min</sub> : Minimum resistance of device prior to trip at 25°C.

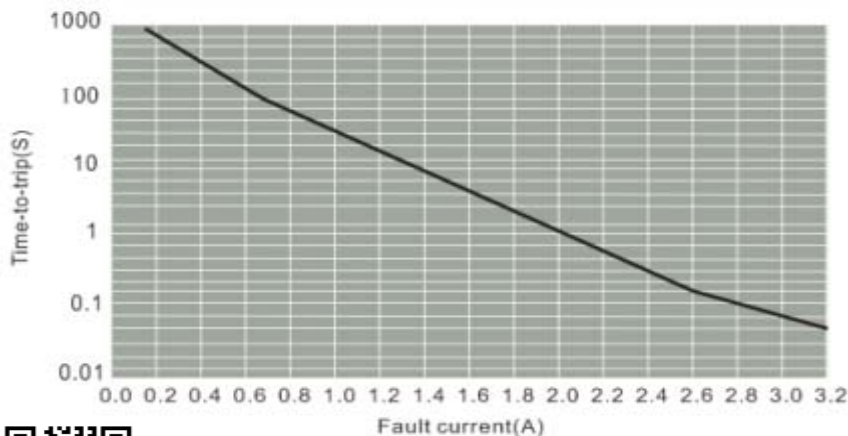
R<sub>max</sub> : Maximum resistance of device prior to trip at 25°C.

R<sub>1max</sub> : Maximum resistance of device measured one hour after tripping at 25°C.

### 4 Environmental Temperature and I<sub>H</sub>, I<sub>T</sub>



### 5 Action Time VS Current Curves Table



# Technical Data

**SBE250-145**

**P T C Resettable Specifications**

## 6 Environmental Characteristics

Operating/Storage Temperature ..... -40 °C to +85 °C  
 Maximum Device Surface Temperature in Tripped State ..... 125 °C  
 Storage Conditions ..... +40 °C Max. 70% RH Max. Packed in original packaging.

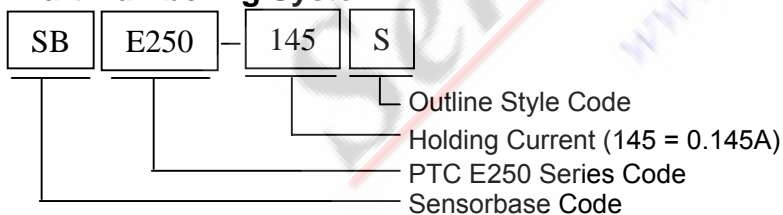
## 7 Conformance Requirement

Number	Item	Test Condition	Spec.	Unit
1	R min.		3.0	Ω
2	R max.		6.5	Ω
3	Post Trip R1max	Resistance measurement one hour after post trip	10	Ω
4	2X Rmin Tsw	2 times of minimum Resistance value of R/T testing	95±15	°C
5	I-hold	Hold rated current 1800 second without trip, @ 60Vdc · 25°C	0.145	A
6	I-trip	Device must trip within 900 second under rated current, @60Vdc, 25°C	1.00	A
7	TTT	@ 60Vdc / 1.0A, 25°C	2.50	Sec.
8	Cycle Life	60Vdc / 10.00A, 100 Cycles	No visible damage or burning	N/A
9	Trip Endurance	250Vdc/ 1.0A, hold under 15 minutes		
10	Power dissipation	@ 60Vdc / 1.0A, 25°C	4.50 TYP	Watts

## 8 Reliability Requirement

Number	Item	Test Condition	Spec.
1	Humidity Aging	85°C, 85%R.H., 1000 Hours	±20% Typical Resistance Change
2	Passive Aging	85°C, 1000 Hours	±20% Typical Resistance Change
3	Thermal Shock	-40°C ~ 85°C, 10 times	±20% Typical Resistance Change
4	Solderability	245°C ±5°C, 5sec	>95% coverage
5	Resistance to Solvents	MIL-STD-202, Method 215	Marking Still legible

## 9 Part Numbering System



\* All coding please see Coding page

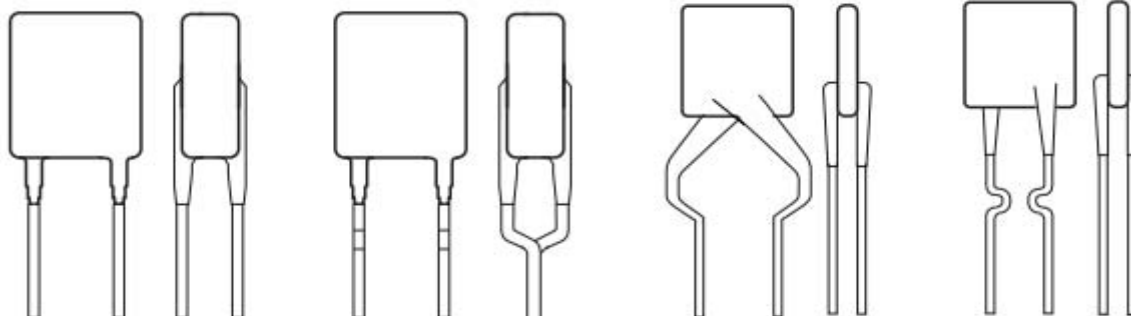
## 10 Outline Style

S : Straight Style

F : Front-back Forming

O : Outward

I : Inward



# Technical Data

SBE250-145

P T C Resettable Specifications

## 11 Package information

Bulk: 1,000 pcs/bag



### Warning :

1. Use PPTC beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
2. PPTC are intended for protection against occasional over current or over temperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
3. Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal and mechanical procedures for electronic components.
4. Use PPTC with a large inductance in circuit will generate a circuit voltage ( $L di/dt$ ) above the rated voltage of the PPTC.

**Sensorbase**<sup>®</sup>  
Technologic Inc.  
[www.SensorBase.com](http://www.SensorBase.com)



**Sensorbase**<sup>®</sup>  
Technologic Inc.  
[www.SensorBase.com](http://www.SensorBase.com)