



# RESETTABLE FUSE SMD TYPE

UL Recognized File # E223335

## WPPS Series

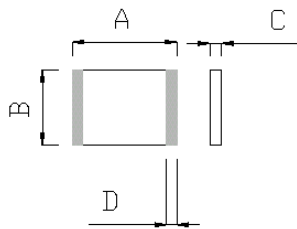
### Explanation of Part Number

Example Part Number:

**WPPS - 4532 - 110**  
(1) (2) (3)

- (1) **Product Series** Poly Resettable Fuse SMD type
- (2) **Chip size code** 4.5 x 3.2mm (.18 x .12 inches)
- (3) **Hold Current Value** 1.10A

### Construction and Dimension



Unit: mm

Part Number	A		B		C		D
	Min.	Max.	Min.	Max.	Min.	Max.	Min.
WPPS-4532-050	4.37	4.73	3.07	3.41	0.35	0.65	0.3
WPPS-4532-075	4.37	4.73	3.07	3.41	0.35	0.65	0.3
WPPS-4532-110	4.37	4.73	3.07	3.41	0.35	0.65	0.3
WPPS-4532-160	4.37	4.73	3.07	3.41	0.35	0.65	0.3

### Performance Specifications

#### Characteristics

Part Number	I <sub>hold</sub> (A)	I <sub>trip</sub> (A)	V <sub>max.</sub> (Vdc)	I <sub>max.</sub> (A)	P <sub>dmax.</sub> (W)	Max. Time to trip (A) (s)		R <sub>25</sub> (•)	
						R <sub>min.</sub>	R <sub>1max.</sub>		
WPPS-4532-050	0.50	1.0	15	40	0.8	8	0.15	1	
WPPS-4532-075	0.75	1.5	13.2	40	0.8	8	0.2	0.45	
WPPS-4532-110	1.10	2.2	6	40	0.8	8	0.3	0.21	
WPPS-4532-160	1.60	2.8	8	40	0.8	8	1	0.099	

#### Note:

I<sub>hold</sub> : Hold current; maximum current device will sustain for 30 min. without tripping in 25°C still air.

I<sub>trip</sub> : Trip 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 voltage.

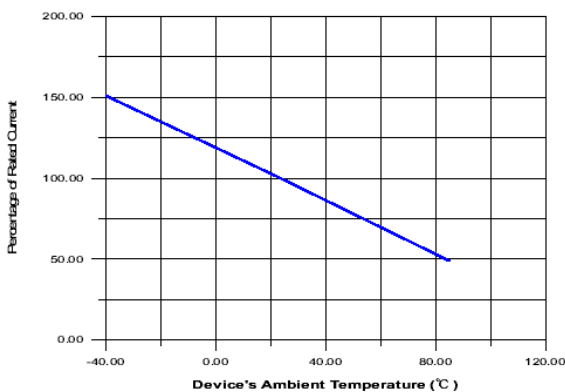
I<sub>max</sub> : Maximum fault current device can withstand without damage at rated voltage.

P<sub>dmax</sub> : Power dissipated from device when in the tripped state at 25°C still air.

R<sub>min</sub> : Minimum resistance of device in initial (un-soldered) state.

R<sub>1max</sub> : Minimum resistance of device at 25°C measured one hour post reflow.

### Thermal Derating Chart



TEMP(°C)	-40	-20	0	25	40	50	60	70	85
WPPS-4532-050	0.59	0.57	0.55	0.50	0.45	0.43	0.35	0.30	0.23
WPPS-4532-075	1.10	0.99	0.87	0.75	0.63	0.57	0.49	0.45	0.35
WPPS-4532-110	1.60	1.45	1.28	1.10	0.92	0.83	0.71	0.66	0.52
WPPS-4532-160	2.32	2.10	1.80	1.6	1.43	1.32	1.14	1.10	0.93

### Test method



Acceptance criteria defined in relevant Standard Test Procedure (STP) and voltage applied is DC.

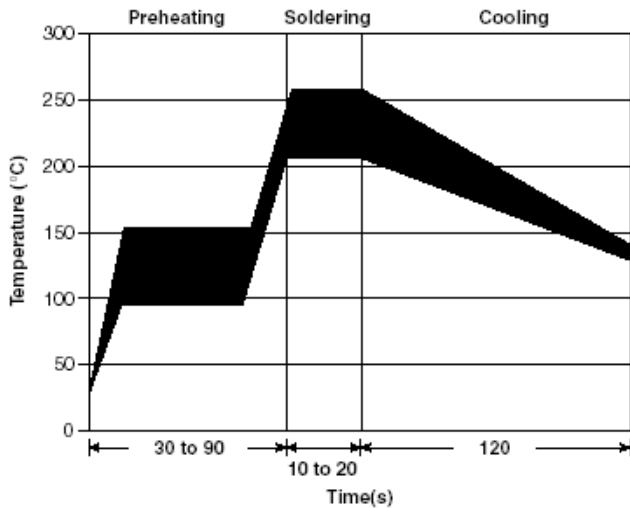
### Environmental Specifications

Characteristic	Resistance Change	Test Methods
Humidity Aging	±5% typical	85°C, 85% RH, 168 hrs.
Operating/ Storage Temperature	±20% typical	85°C, -40°C, 1000 hrs.
Thermal Shock	-33%	85°C, -40°C (20 times)
Vibration	No change	MIL-STD-883D, Method 2026
Passive Aging	±5% typical	+85°C, 1000 hrs
Solvent resistance	No change	MIL-STD-202, Method 215

### Physical Characteristics

Characteristic	
Terminal Material	Solder-plated copper or Gold-plated copper
Soldering	ANSI/J-STD-002 Category 3

### Solder Reflow



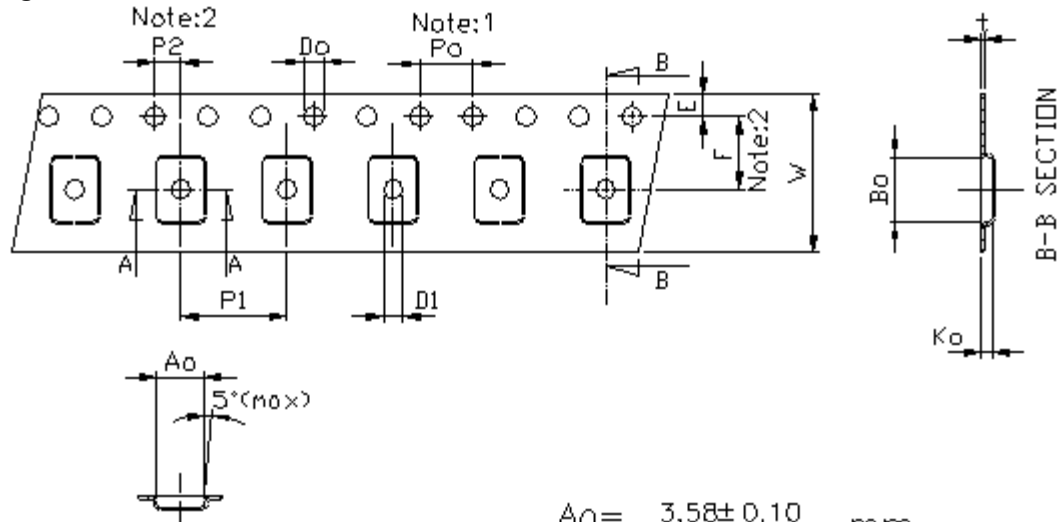
#### Notes:

Recommended reflow methods: IR, vapor phase, and hot air oven.  
 Devices are not designed to be wave soldered to the bottom side of the board.  
 Devices can be cleaned using standard methods and solvents.  
 Recommended maximum paste thickness is 0.25 mm.



### Taping Package and Label Marking

#### Taping Dimensions



A-A SECTION

$$A_0 = \underline{3.58 \pm 0.10} \text{ mm}$$

$$B_0 = \underline{4.90 \pm 0.10} \text{ mm}$$

$$K_0 = \underline{0.87 \pm 0.10} \text{ mm}$$

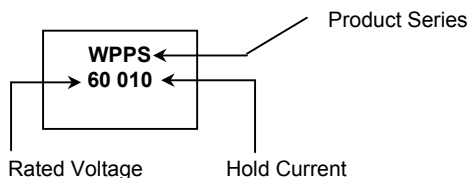
Unit: mm

Symbol	Spec.
K1	-
P0	4.0±0.10
P1	8.0±0.10
P2	2.00±0.05
D0	1.55±0.05
D1	1.50(MIN)
E	1.75±0.10
F	5.50±0.05
10P0	40.0±0.20
W	12.0±0.20
T	0.25±0.05

#### Notice:

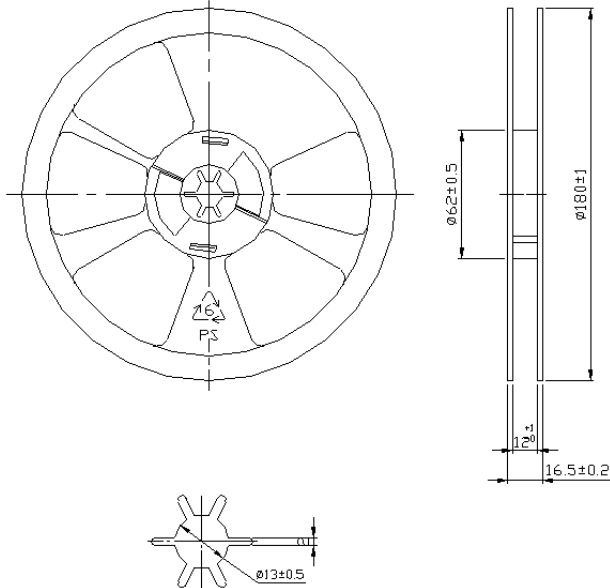
1. 10 Sprocket hole pitch cumulative tolerance is ±0.2mm
2. Pocket position relative to sprocket hole measured as true position of pocket not pocket hole.
3. A<sub>0</sub> & B<sub>0</sub> measured on a plane 0.3mm above the bottom of the pocket to top surface of the carrier.
4. K<sub>0</sub> measured from a plane on the inside bottom of the pocket to the top surface of the carrier.
5. Carrier camber shall be not than 1mm per 100mm through a length of 250mm.

### Part Marking System





### Real Dimensions



### Precautions for Handling

#### Storage conditions

Note the follows, in case of storing this product.

- (1) Avoid the atmospheres which are high temperature, high humidity, dusty and having corrosive gas (Hydrogen chloride, Sulfurous acid gas, Hydrogen sulfide etc.) to prevent terminal solderability from declining.
- (2) Keep the storage conditions less than 40°C and 70% relative humidity, and use up this product in six months as far as you can.
- (3) Avoid direct heat and sunshine to prevent the tape of package from transforming and sticking to this product.

### Time to trip vs. I fault chart

