

## Z-form SMD Leadform Option

Note - Not recommended for new designs. There are no EOL plans for Z-form, but for new designs the newer ZI-form is recommended.

### Z-Form

- SMD power resistors up to 5W
- Air-cooled form prevents PCB overheating
- Approved axials can be re-used in SMD designs
- Precision, fusible & high voltage also available
- Compatible with vacuum pick & place

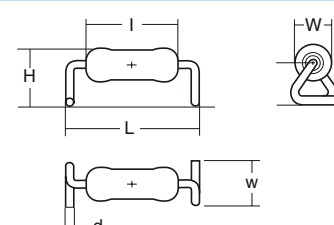


 All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

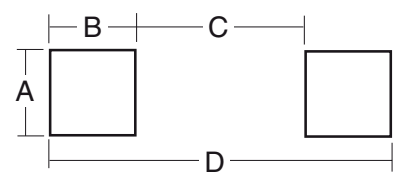
## Description

The Z-form option allows conversion of axial through-hole resistors into a surface mount format. This makes available to designers of SMD circuits resistors with characteristics that are simply not available in flat chip or MELF styles. For example, power resistors with ratings up to 5W which dissipate their heat into the air can now be surface mounted - a valuable alternative to an array of several chip resistors which dump heat into the PCB. Precision metal film parts are available that give combinations of power rating and stability that are not available in thin film chips. And several of Welwyn's fusible and high-voltage axials are also now surface mountable, together with parts bearing UL recognition, CECC release or customer approvals.

## Physical Data

Dimensions (mm)							
Size Code	L	W	H max	I	w	D nom	
<b>2W</b>	13.4±0.2	See product	6.25	See product	4.5±0.6	0.8	
<b>3W</b>	18.7±0.2	datasheet	6.9	product	6.5±0.6	0.8	
<b>5W</b>	18.7±0.2	datasheet	7.9	datasheet	6.5±0.6	0.8	

## Recommended Pad Sizes

Dimensions (mm)					
Size Code	A min	B min	C max	D min	
<b>2W</b>	5.5	2.5	10	15	
<b>3W</b>	7.5	2.5	15	20	
<b>5W</b>	7.5	2.5	15	20	

## Application Notes

Z-form resistors are supplied in reeled blister tape for use on a vacuum pick & place system. A standard flat or MELF nozzle may be used provided the placement speed is consistent with the mass of the component. Note that, as the format is designed to give spacing between the underside of the body and the PCB, these parts are not suitable for adhesive attachment during soldering.



### General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

## Z-Form

## Applicable Products

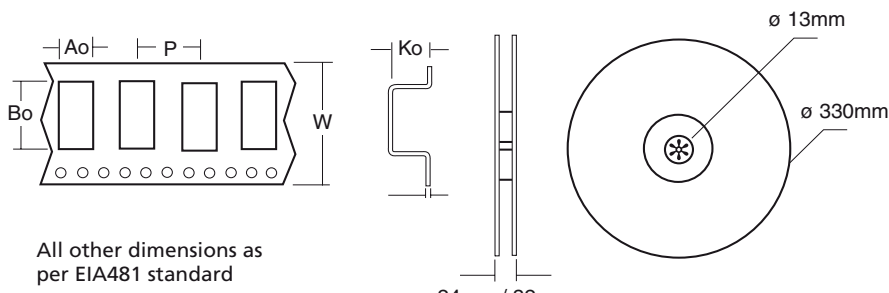
Many product series are available in Z-form SMD option. The respective size codes for each product are listed in the table below.

Wirewound - flameproof cement		Size Codes	Metal film - fusible		Size Codes
<b>WP-S</b>	WP2S/WP25S/WP3S/WP4S/WP5S	2W/3W/3W/3W/5W	<b>WFF</b>	WFF1/2 / WFF1	2W / 3W
<b>W30</b>	W31	3W	<b>FM</b>	FM1/2 / FM1	2W / 3W
Metal oxide - flameproof cement			<b>EMC</b>	EMC2	2W
<b>WMO-S</b>	WMO1S / WMO2S / WMO3S	2W / 3W / 3W	Metal film - low power		
			<b>MFR</b>	MFR5	2W
Metal film - flameproof cement			<b>RC(P)</b>	RC65(P) / RC70(P)	2W / 3W
<b>MF-S</b>	MF1S / MF2S / MF3S	2W / 3W / 3W	High voltage		
<b>MFP</b>	MFP2	2W	<b>VRW</b>	VRW37	2W
<b>2500</b>	2504	3W	<b>GC</b>	GC65 / GC70	2W / 3W

Other products of similar body size may be available in Z-form - please consult the Applications Engineering team.

## Packaging

Dimensions (mm)							Quantity per reel
Size Code	A <sub>0</sub>	B <sub>0</sub>	K <sub>0</sub>	W	P	T	
<b>2W</b>	5.3	13.9	6.3	24	12	0.4	750
<b>3W</b>	7.3	19.2	7.1	32			750
<b>5W</b>	7.4	19.2	8.2	32			650



All other dimensions as per EIA481 standard

24mm / 32mm

## Ordering Details

The Z-form option is normally specified by appending the suffix "Z" to the product type. Examples are given below.

Axial Through-hole version	Z-form SMD version
WA84-100RJ	WA84Z-100RJ
EMC2-10RM	EMC2Z-10RM
WMO3S-4K7J	WMO3SZ-4K7J

The exception to this is for precision resistors, where this letter is also used as a TCR code. In this case the "Z" is embedded in the type code as in the examples below.

Axial Through-hole version	Z-form SMD version
RC70Y-549RB	RCZ70Y-549RB
RC65Z-1K02D	RCZ65Z-1K02D

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