

Type	VE15	VE25	VE45	VE70	VE90	VE130	VE220	VE300	VE400	VE500
Rated Power @ 25°C (W)	15	25	45	70	90	130	220	300	400	500
Ohmic value minimum (Ohms)	1R0	1R0	2R0	2R7	3R6	4R7	5R1	6R8	10R	8R2
Ohmic value maximum (Ohms)	3K0	4K7	7K5	10K	22K					
Maximum working Voltage (V)	300	600	1000		1400	1600	2500	3600	5000	
Tolerance	J (±5%), K (±10%)									
Operating temperature	-55°C to +300°C									

Vitreous Enamel Coated Power Resistor

Type VE Series

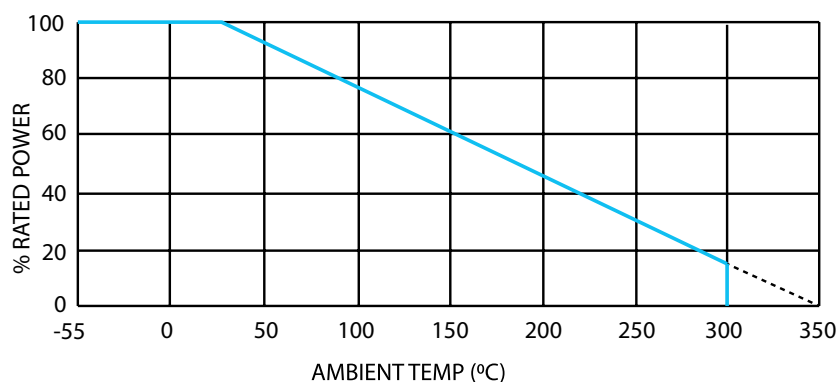
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ENVIRONMENTAL CHARACTERISTICS

Characteristics	Condition	Compliance
Continuous Power	Rated Power at 25°C	≤ 400°C temperature on the surface
Insulation Resistance	Dry/Normal @ 500VDC	> 100MΩ
Maximum Overload Voltage	2.5 × Rated Voltage For 5 Sec.	
Dielectric strength	VE15-VE45 – 1.5kV for 60 Sec.	No breakdown
	VE70-VE90 – 2.5kV for 60 Sec.	
	VE130-VE500 – 5kV for 60 Sec.	
Short-time overload capability	5 × Rated Power for 5 Sec.	
Load Life	Rated wattage 1.5 hours ON - 1.5 hours OFF for 1000 hours	
Solderability (Where applicable)	350°C for up to 3 sec	95% coverage

POWER DERATING CURVE



VOLTAGE RATING

Resistors shall have a rated direct-current (DC) continuous working voltage or an approximate sine-wave root-mean-square (RMS) alternating-current (AC) continuous working voltage at commercial- line frequency and waveform corresponding to the power rating, as determined from the following formula:

$$RCWV = \sqrt{P \times R}$$

Note:

1. Max. working voltage or $\sqrt{P \times R}$ whichever is lesser
2. Max. overload voltage or $2.5 \sqrt{P \times R}$ whichever is lesser

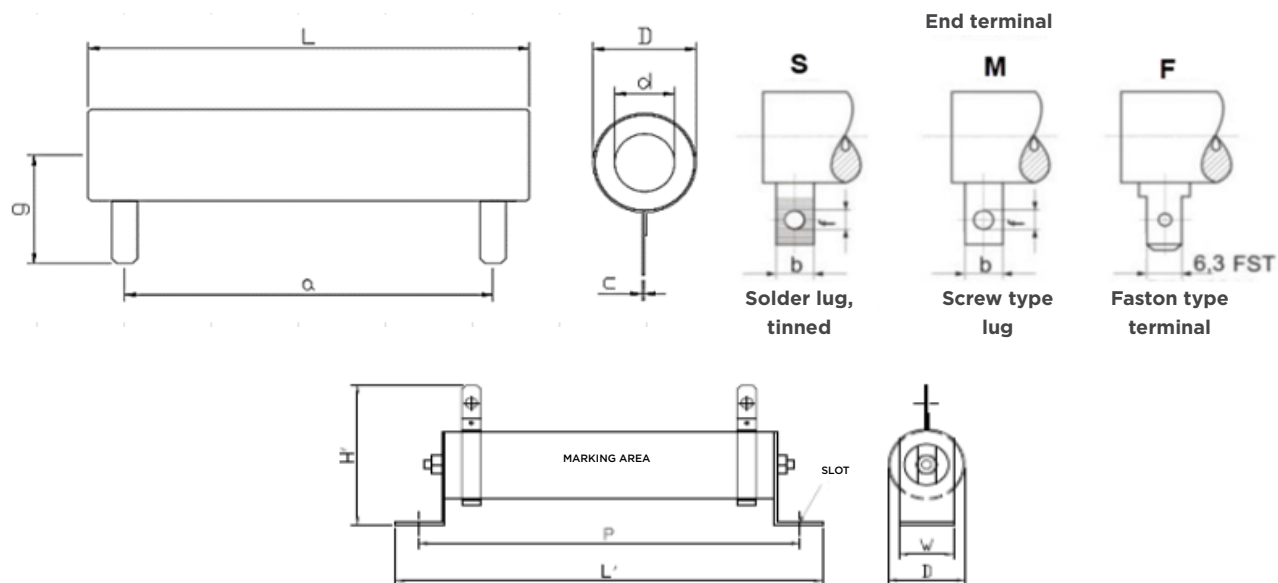
Where : RCWV = Rated DC or RMS AC continuous working voltage at commercial-line frequency and waveform (volt) and

P = Power Rating (watt)

R = Nominal Resistance (ohm)



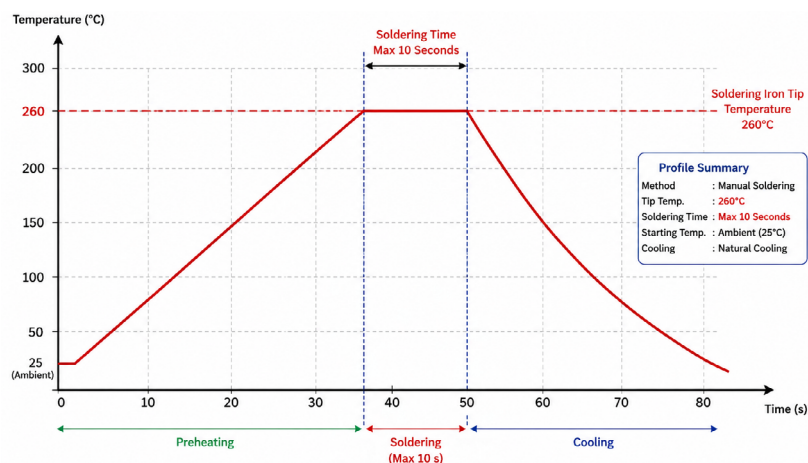
CONSTRUCTION AND DIMENSIONS (Unit: mm)



Series	Rated Power(W)	D(max)	L ±1.6 (mm)	L'±2 (mm)	H'±2 (mm)	W±1 (mm)	P±2 (mm)	a±1 (mm)	d±1 (mm)	g(ref) (mm)	B±0.2 (mm)	E±0.2 (mm)	F Solder lug (min.)
VE15	15	15.1	38.1	78.1	40	15	63.1	27	5.5	18	6	3.2	2.7
VE25	25	15.1	50.8	90.8	40	15	75.8	38	5.5	18	6	3.2	2.7
VE45	45	15.1	76.2	116.2	40	15	101.2	65	5.5	18	6	3.2	2.7
VE70	70	23	76.2	126.2	58.5	18	111.2	60	12	25	8	4.3	3.8
VE90	90	23	101.6	151.6	58.5	18	136.6	85	12	25	8	4.3	3.8
VE130	130	33.3	101.6	151.6	72.5	28	136.6	68	18.5	29	8	4.3	3.8
VE220	220	33.3	152.4	202.4	72.5	28	187.4	119	18.5	29	8	4.3	3.8
VE300	300	33.3	203.2	253.2	72.5	28	238.2	170	18.5	29	8	4.3	3.8
VE400	400	33.3	266.7	316.7	72.5	28	301.7	230	18.5	29	8	4.3	3.8
VE500	500	33.3	304.8	354.8	72.5	28	339.8	270	18.5	29	8	4.3	3.8

SOLDERING PROFILE

Manual Soldering Station 260°C, 10 Sec (Max).





MULTIPLIER CODE

Code	A	B	C	D	E	F	G	H	X	Y	Z
Multiplier	10^0	10^1	10^2	10^3	10^4	10^5	10^6	10^7	10^{-1}	10^{-2}	10^{-3}

Coding

XX

Resistance Code

Formula

X

Multiplier Code

Example :

$$\begin{array}{lcl}
 10.2\text{K}\Omega = & \begin{array}{c} 102 \\ \downarrow \\ 02 \end{array} & \begin{array}{c} \times 10^2 \Omega \\ \downarrow \text{C} \end{array} = 02\text{C} \\
 33.2\Omega = & \begin{array}{c} 332 \\ \downarrow \\ 51 \end{array} & \begin{array}{c} \times 10^{-1} \Omega \\ \downarrow \text{X} \end{array} = 51\text{X}
 \end{array}$$

Value	Code	Value	Code	Value	Code	Value	Code	Value	Code
100	01	162	21	261	41	422	61	681	81
102	02	165	22	267	42	432	62	698	82
105	03	169	23	274	43	442	63	715	83
107	04	174	24	280	44	453	64	732	84
110	05	178	25	287	45	464	65	750	85
113	06	182	26	294	46	475	66	768	86
115	07	187	27	301	47	487	67	787	87
118	08	191	28	309	48	499	68	806	88
121	09	196	29	316	49	511	69	825	89
124	10	200	30	324	50	523	70	845	90
127	11	205	31	332	51	536	71	866	91
130	12	210	32	340	52	549	72	887	92
133	13	215	33	348	53	562	73	909	93
137	14	221	34	357	54	576	74	931	94
140	15	226	35	365	55	590	75	953	95
143	16	232	36	374	56	604	76	976	96
147	17	237	37	383	57	619	77		
150	18	243	38	392	58	634	78		
154	19	249	39	402	59	649	79		
158	20	255	40	412	60	665	80		

MARKING

Label shall be marked with the following items:

1. Company name or Logo
2. TE Series Number
3. Resistance Value
4. Tolerance
5. Date Code (YYMM)

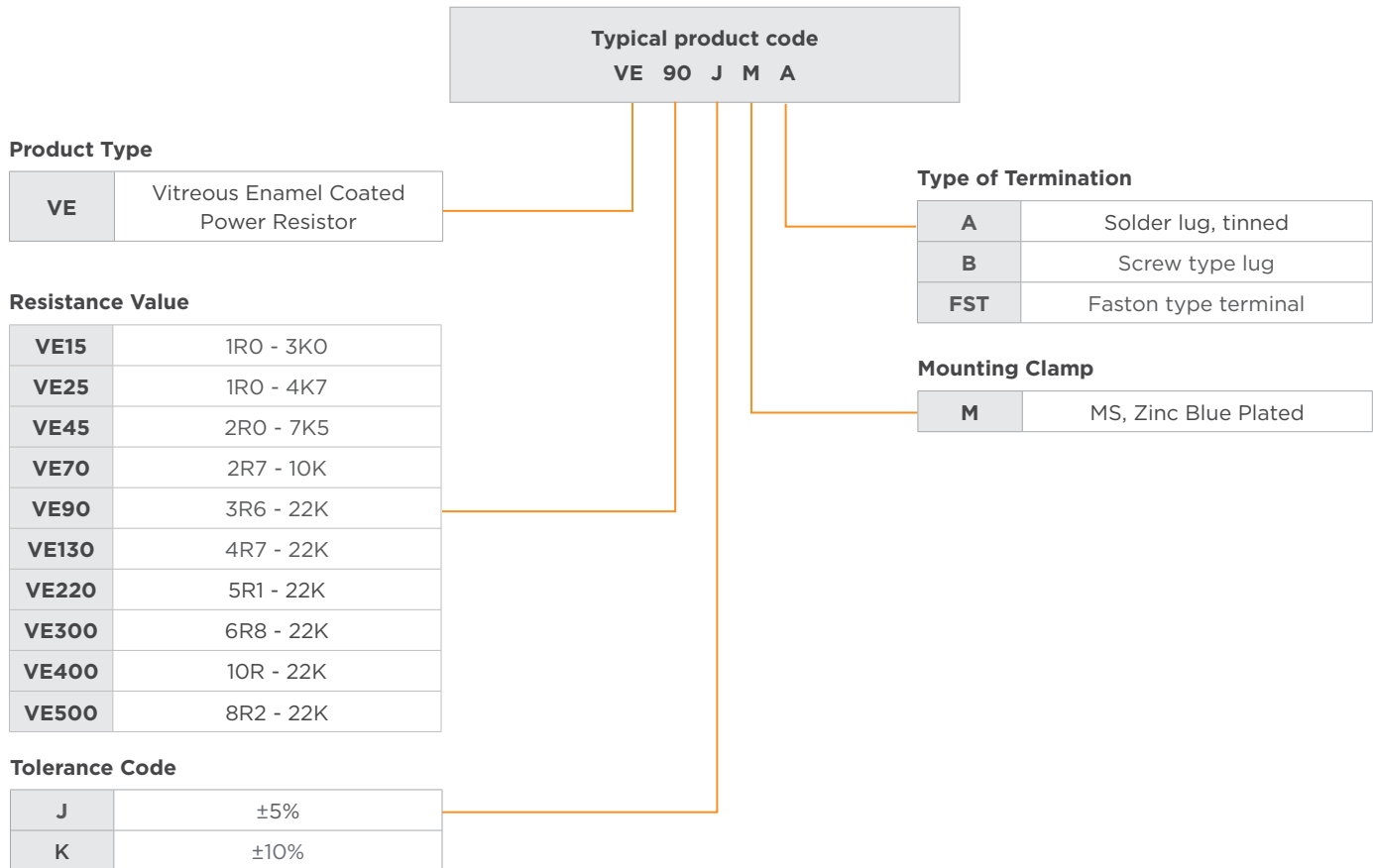


Note: Style of Marking – Laser

PACKAGING SPECIFICATION

Product code	Primary Packing	Filler Material	Export
VE15	3-ply Corrugated Box, 25 pcs. per Box	Air Cushion Package or Corrugated Sheet	Sea shipment box
VE25			
VE45			
VE70			
VE90			
VE130			
VE220	3-ply Corrugated Box, 10 pcs. per Box		
VE300			
VE400			
VE500			

ORDERING INFORMATION



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