Type 3430 Series

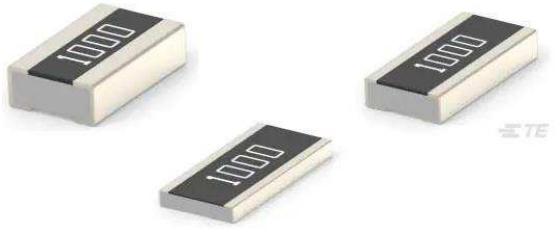
Key Features

AEC-Q200 Compliance

Highly reliable multilayer electrode construction

Compatible with all soldering processes

100% CCD inspection



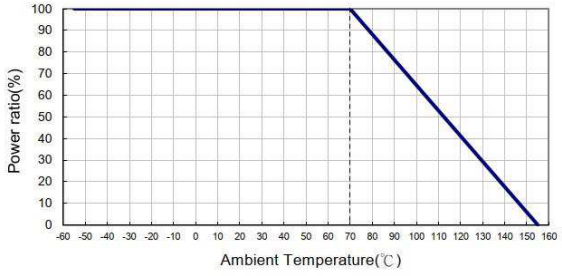
TEConnectivity (TE) is pleased to introduce this new Automotive Grade high power wide terminal chip resistor. The ruthenium based thick film element, along with the wide terminals allow a greater power capability than previously possible with traditional methods. Highly reliable multilayer electrode construction and 100% CCD inspection improve long term stability and reliability.

Characteristics – Electrical

Item / Size	Size Code	Power rating @70°C / Jumper Rated Current	Max Operating Voltage	Max Overload Voltage	Resistance Range	Resistance Tolerance	TCR (PPM/°C)
0508	A2	1W	200V	400V	1R ~ 9R76	1%	±150
					10R ~ 1M		±100
		Jumper 5A			0R <10mΩ	-	-
0612	B2	1.5W	200V	400V	1R ~ 1M	1%	±100
		Jumper 6A			0R <10mΩ	-	-
1020	H2	2W	200V	400V	1R ~ 9R76	1%	±150
					10R ~ 1M		±100
		Jumper 10A			0R <10mΩ	-	-
1225	A3	3W	200V	400V	1R ~ 29R4	1%	±200
					30R ~ 1M		±100
		Jumper 12A			0R <10mΩ	-	-

Operating Temperature Range: -55 ~ 155°C
Operating Voltage=√(P*R) or Max. Operating Voltage listed above, whichever is lower.
Overload Voltage=2.5*√(P*R) or Max. Overload Voltage listed above, whichever is lower.
Tighter tolerances may be available on application

Derating Curve



Applications

Automotive Industry

Telecommunication Equipment

Radio and Tape Recorders, TV Tuners

Digital Cameras, Watches, Pocket Calculators

Computers, Instruments

Medical Equipment

Environmental Characteristics

Item	Requirement	Test Method
Temperature Coefficient of Resistance (T.C.R.)	AS Spec	**JIS-C-5201-1 4.8** **IEC-60115-1 4.8** At 25°C/-55°C and 25°C/+125°C, 25°C is the reference temperature
Short Time Overload	±(1.0%+0.05Ω)	**JIS-C-5201-1 4.13** **IEC-60115-1 4.13** RCWV*2.5 or Max. Overload Voltage whichever is lower for 5 seconds
Insulation Resistance	≥10G	**JIS-C-5201-1 4.6** **IEC-60115-1 4.6** Max. Overload Voltage for 1 minute
Operational Life	±(1.0%+0.10Ω)	**MIL-STD-202 Method 108** Condition D Steady State TA=125°C at derated power. Measurement at 24±4 hours after test conclusion.
Biased Humidity	±(1.0%+0.10Ω)	**MIL-STD-202 Method 103** 1000 hrs 85°C/85%RH 10% of operating power. (≦100 V)
High Temperature Exposure	±(1.0%+0.05Ω)	**MIL-STD-202 Method 108** at +155°C for 1000 hrs
Board Flex	±(1.0%+0.05Ω)	**AEC-Q200-005** Bending once for 60 seconds 3mm
Solderability	95% min. coverage	**JIS-C-5201-1 4.17** **IEC-60115-1 4.17** **J-STD-002** 245±5°C for 3 seconds
Resistance to Soldering Heat	±(0.5%+0.05Ω)	**MIL-STD-202 Method 210** 260±5°C for 10 seconds
Voltage Proof	No breakdown or flashover	**JIS-C-5201-1 4.7** **IEC-60115-1 4.7** 1.42 times Max. Operating Voltage for 1 minute
Leaching	Individual leaching area ≦5% Total leaching area ≦ 10%	**JIS-C-5201-1 4.18** **IEC-60068-2-58 8.2.1** 260±5°C for 30 seconds
Temperature Cycling	±(0.5%+0.05Ω)	JESD22 Method JA-104 -55°C to +125°C, 1000 cycles
Mechanical Shock	±(0.25%+0.05Ω)	**MIL-STD-202 Method 213** Wave Form: Tolerance for half sine shock pulse. Peak value is 100g's. Normal duration (D) is 6.
Vibration	±(0.5%+0.05Ω)	**MIL-STD-202 Method 204** 5 g's for 20 min., 12 cycles each of 3 orientations, 10-2000 Hz
ESD	±(3%+0.05Ω)	**AEC-Q200-002** Human body model: 2KV
Resistance to Solvents	No visible damage on appearance and marking.	**MIL-STD-202 Method 215** Add Aqueous wash chemical - OKEM Clean or equivalent. Do not use banned solvents.
Terminal Strength	Not broken	**AEC-Q200-006** Force of 1.8kg for 60 seconds.

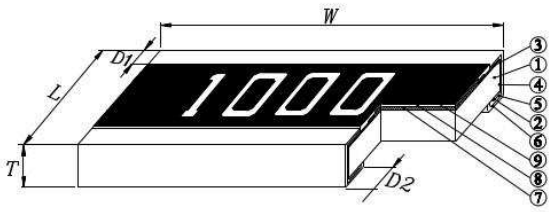
Item	Requirement	Test Method
Flammability	No ignition of the tissue paper or scorching or the pinewood board	**UL-94** V-0 or V-1 are acceptable. Electrical test not required.
Sulfur Test	ΔR±1%	EIA-977 (Condition A) 60±2°C, no power rating for 500 hrs.

RCWV(Rated Continuous Working Voltage)=√(P*R) or Max. Operating Voltage whichever is lower. * not include Jumper(0Ω)

Storage Temperature: 15~28°C; Humidity < 80%RH

Shelf Life: 2 years from production date.

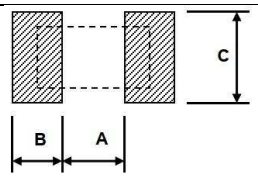
Construction and Dimensions



①	Alumina Substrate	④	Edge Electrode	⑦	Resistor Layer
②	Bottom Electrode	⑤	Barrier Layer	⑧	Primary Overcoat
③	Top Electrode	⑥	External Electrode	⑨	Secondary Overcoat

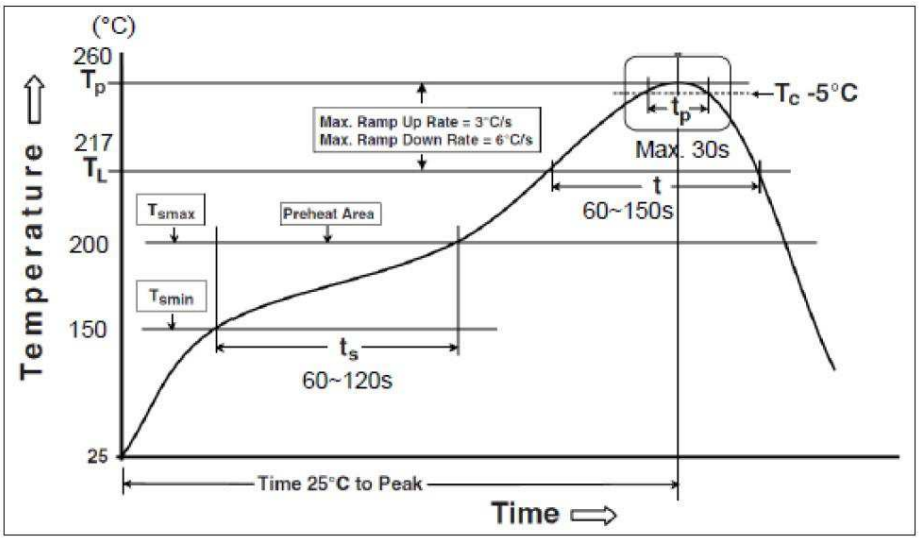
Type	Size	L (mm)	W (mm)	T (mm)	D1 (mm)	D2 (mm)	Weight (g) 1000 pcs
3430A2	0508	1.25±0.1	2.00±0.1	0.55±0.1	0.30±0.15	0.30±0.15	5
Jumper					0.20±0.15		
3430B2	0612	1.55±0.1	3.00±0.15	0.55±0.1	0.25±0.15	0.40±0.15	8
Jumper							
3430H2	1020	2.45±0.15	5.00±0.1	0.60±0.15	0.35±0.20	0.70±0.20	26
Jumper					0.45±0.20		
3430A3	1225	3.20±0.20	6.40±0.15	0.65±0.15	0.40±0.20	1.10±0.20	41
Jumper					0.50±0.20	0.70±0.20	

Recommended Land Pattern

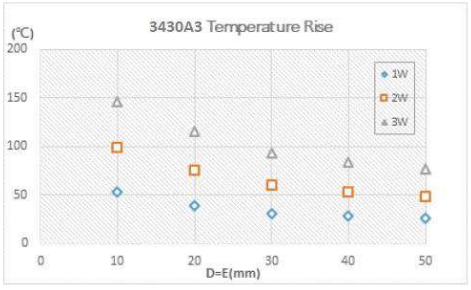


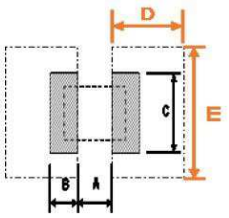
Size	A (mm)	B (mm)	C (mm)
0508	0.55	0.90	2.00
0612	0.70	0.80	3.20
1020	1.00	1.20	5.00
1225	1.00	2.00	7.00

Soldering Condition (Ref. IPC/JEDEC J-STD-020 & J-STD-002)



Reflow Profiles	
Profile Feature	**Pb free assembly**
Preheat Min. Temperature (Tsmin) Max Temperature (Tsmax) Preheating time (ts) from (Tsmin to Tsmax)	 150 °C 200 °C 60-120 seconds
Ramp-up rate (TL to TP)	3 °C/second max.
Liquidous temperature (TL) Time (tL) maintained above TL	217 °C 60-150 seconds
Min. Peak temperature (TP min)	235°C
Max. Peak temperature (TP max)	260°C
Time (tp) within 5 °C of the specified classification temperature (Tc)	30 seconds max.
Ramp-down rate (TP to TL)	6 °C/second max.
Time 25 °C to peak temperature	8 minutes max.

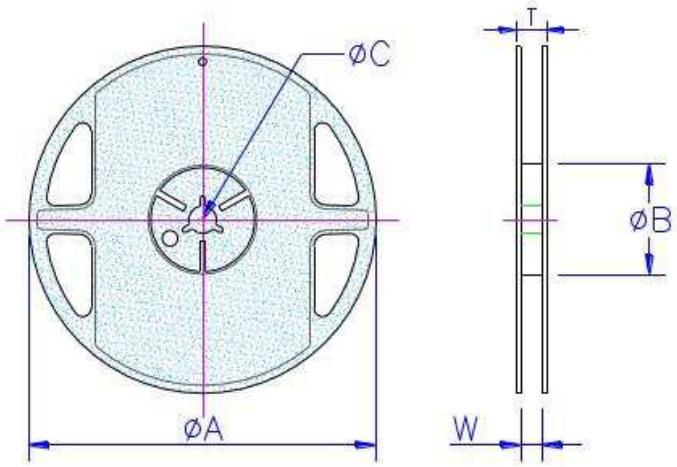




∗FR4 copper board, 35μm of copper pad thickness

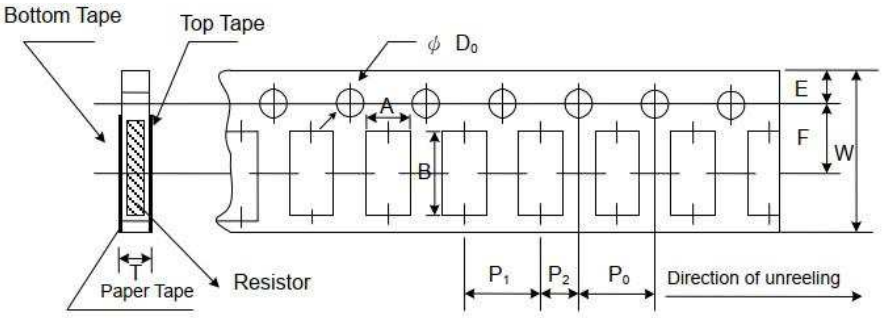
Packaging

Reel Dimensions and Quantity



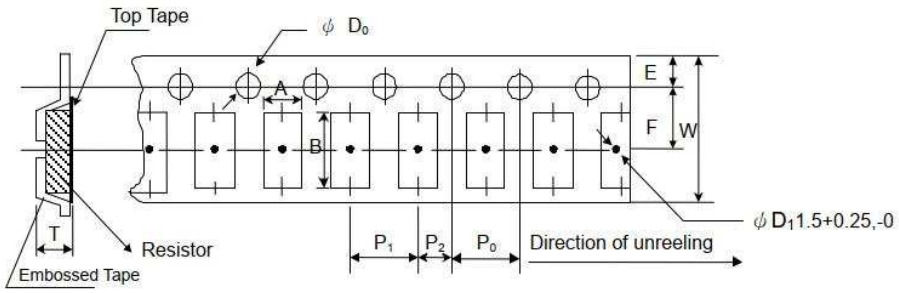
Size	Qty	Tape Width	Reel Diameter	ΦA (mm)	ΦB (mm)	ΦC (mm)	W (mm)	T (mm)
0508 0612	5K 1K	8mm	7 Inch	178.5±1.5	$60^{+1/-0}$	13.0±0.2	9.0±0.5	12.5±0.5
1020 1225	4K 1K	12mm	7 Inch	178.5±1.5	$60^{+1/-0}$	13.0±0.5	13.0±0.5	15.5±0.5

Paper Tape Specification



Size	A ±0.10 (mm)	B ±0,20 (mm)	W ±0.20 (mm)	E ±0.10 (mm)	F ±0.05 (mm)	P_0 ±0.10 (mm)	P_1 ±0.05 (mm)	P_2 ±0.05 (mm)	ØD_0 +0.1 -0 (mm)	T ±0.10 (mm)
0508	1.60	2.40	8.0	1.75	3.5	4.0	4.0	2.0	1.5	0.85
0612	1.90	3.50	8.0	1.75	3.5	4.0	4.0	2.0	1.5	0.85

Embossed Plastic Tape Specification



Size	A (mm)	B (mm)	W ±0.10 (mm)	E ±0.10 (mm)	F ±0.05 (mm)	P_0 ±0.05 (mm)	P_1 ±0.10 (mm)	P_2 ±0.05 (mm)	ØD_0 +0.10 (mm)	T ±0.20 (mm)
1020	2.80 ±0.15	5.40 ±0.20	12.00	1.75	5.50	4.00	4.00	2.00	1.55	1.00
1225	3.50 ±0.10	6.70 ±0.10	12.00	1.75	5.50	4.00	4.00	2.00	1.55	1.00

Marking

All models 4 digit marking

Resistance	22.6Ω	487Ω	499KΩ
Marking	22R6	4870	4993

How To Order

3430	H2	F	3K3	TE
Common Part	**Size**	**Tolerance**	**Resistance Value**	**Packaging**
3430 - Automotive Grade Wide Terminal Chip Resistor	A2 – 0508 B2 – 0612 H2 – 1020 A3 - 1225	F – 1%	1R0 - 1Ω 100R - 100Ω 1K0 – 1KΩ 100K – 100KΩ 1M0 – 1MΩ	TDF – 1K Reel TD – 5K Reel (0508 & 0612) TE – 4K Reel (1020 & 1225)