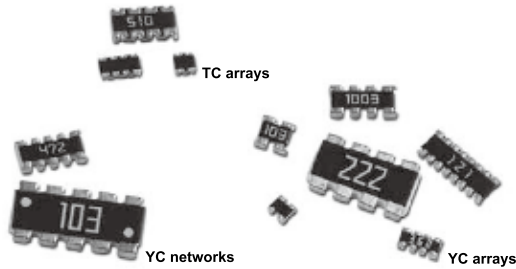


# Resistor Chip Selection Charts

## Introduction to thick film array / network resistors

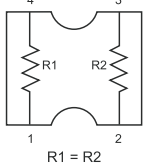


### Features

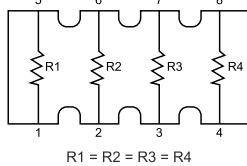
- Integrated discrete chip resistors from 2 to 8 pcs
- More efficient in pick & place application
- Low assembly costs
- Reduced size of final equipment
- Higher component and equipment reliability

### Schematics

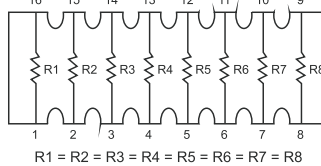
YC102/122/162



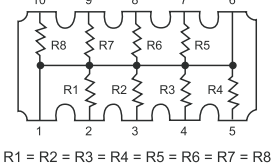
YC124/164/324



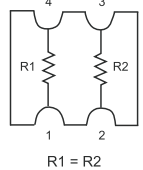
YC248



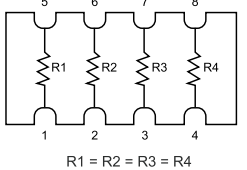
YC358 (L-Type)



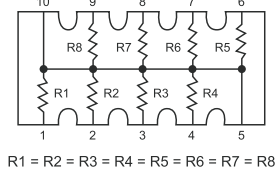
TC122



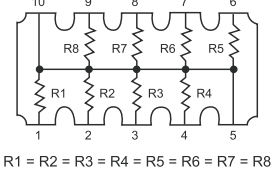
TC124/164



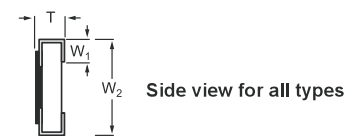
YC158



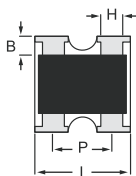
YC358 (T-Type)



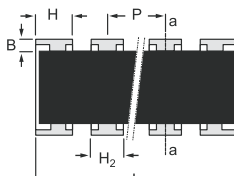
### Dimensions



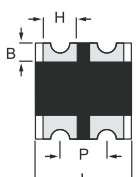
YC 102/122/162



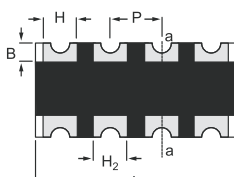
YC 124/164/324  
158/358/248



TC 122



TC 124/164



Note: "H<sub>2</sub>" is valued on button view

unit: mm

Type	H / H <sub>2</sub>	B	P	L	T	W <sub>1</sub>	W <sub>2</sub>
YC102	H: 0.35 ±0.10	0.20 ±0.10	0.50 ±0.05	0.80 ±0.10	0.35 ±0.10	0.15 ±0.10	0.60 ±0.10
YC122	H: 0.21 ±0.10/-0.05	0.20 ±0.10	0.67 ±0.05	1.00 ±0.10	0.35 ±0.10	0.25 ±0.10	1.00 ±0.10
YC162	H: 0.30 ±0.10	0.30 ±0.10	0.80 ±0.05	1.60 ±0.10	0.40 ±0.10	0.30 ±0.10	1.60 ±0.10
YC124	H: 0.45 ±0.05	0.20 ±0.15	0.50 ±0.05	2.00 ±0.10	0.45 ±0.10	0.30 ±0.15	1.00 ±0.10
YC164	H: 0.65 ±0.05	0.30 ±0.15	0.80 ±0.05	3.20 ±0.15	0.60 ±0.10	0.30 ±0.15	1.60 ±0.15
YC324	H: 1.10 ±0.15 H <sub>2</sub> : 0.90 ±0.15	0.50 ±0.20	1.27 ±0.05	5.08 ±0.20	0.60 ±0.10	0.50 ±0.15	3.20 ±0.20
YC248	H: 0.45 ±0.05 H <sub>2</sub> : 0.30 ±0.05	0.30 ±0.15	0.50 ±0.05	4.00 ±0.20	0.45 ±0.10	0.40 ±0.15	1.60 ±0.15
TC122	H: 0.30 ±0.05	0.25 ±0.15	0.50 ±0.05	1.00 ±0.10	0.30 ±0.10	0.25 ±0.15	1.00 ±0.10
TC124	H: 0.30 ±0.10 H <sub>2</sub> : 0.25 ±0.10	0.20 ±0.10	0.50 ±0.05	2.00 ±0.10	0.40 ±0.10	0.25 ±0.10	1.00 ±0.10
TC164	H: -- H <sub>2</sub> : 0.60 ±0.15	0.30 ±0.15	0.80 ±0.05	3.20 ±0.15	0.60 ±0.10	0.30 ±0.15	1.60 ±0.15
YC158	H: 0.45 ±0.05	0.30 ±0.15	0.64 ±0.05	3.20 ±0.20	0.60 ±0.10	0.35 ±0.15	1.60 ±0.15
YC358	H: 1.10 ±0.15 H <sub>2</sub> : 0.90 ±0.15	0.50 ±0.15	1.27 ±0.05	6.40 ±0.20	0.60 ±0.10	0.50 ±0.15	3.20 ±0.20

# Resistor Chip Selection Charts

## Introduction to thick film array / network resistors

**SMD Chip Resistors**

Electrical characteristics										
Type	Power P <sub>70</sub>	Operating Temp. range	MWV	RCOV	DWV	Resistance range & tolerance		T. C. R. (ppm/°C)	Jumper criteria (unit: A)	
YC102	1/32W	-55°C to +125°C	15V	30V	30V	E24 ±5% E24/E96 ±1% Zero ohm jumper	10Ω ≤ R ≤ 1MΩ 10Ω ≤ R ≤ 1MΩ < 0.05Ω	±200	Rated current	0.5
									Max. current	1.0
YC122	1/16W	-55°C to +125°C	50V	100V	100V	E24 ±5% E24/E96 ±1% Zero ohm jumper	1Ω ≤ R ≤ 1MΩ 10Ω ≤ R ≤ 1MΩ < 0.05Ω		Rated current	1.0
									Max. current	2.0
YC162	1/16W	-55°C to +125°C	50V	100V	100V	E24 ±5% Zero ohm jumper	10Ω ≤ R ≤ 1MΩ < 0.05Ω		Rated current	1.0
									Max. current	2.0
YC124	1/16W	-55°C to +155°C	25V	50V	100V	E24 ±5% E24/E96 ±1% Zero ohm jumper	10Ω ≤ R ≤ 1MΩ 10Ω ≤ R ≤ 1MΩ < 0.05Ω		Rated current	1.0
									Max. current	2.0
YC164	1/16W	-55°C to +155°C	50V	100V	100V	E24 ±5% E24/E96 ±1% Zero ohm jumper	1Ω ≤ R ≤ 1MΩ 1Ω ≤ R ≤ 1MΩ < 0.05Ω		Rated current	1.0
									Max. current	2.0
YC324	1/8W	-55°C to +155°C	200V	500V	500V	E24 ±5% E24/E96 ±1%	10Ω ≤ R ≤ 1MΩ 10Ω ≤ R ≤ 1MΩ		--	--
YC248	1/16W	-55°C to +155°C	50V	100V	100V	E24 ±5% E24/E96 ±1% Zero ohm jumper	10Ω ≤ R ≤ 1MΩ 10Ω ≤ R ≤ 1MΩ < 0.05Ω		Rated current	2.0
								Max. current	10.0	
TC122	1/16W	-55°C to +125°C	50V	100V	100V	E24 ±5% E24/E96 ±1% Zero ohm jumper	10Ω ≤ R ≤ 1MΩ 10Ω ≤ R ≤ 1MΩ < 0.05Ω	Rated current	1.0	
								Max. current	1.5	
TC124	1/16W	-55°C to +125°C	50V	100V	100V	E24 ±5% E24/E96 ±1% Zero ohm jumper	10Ω ≤ R ≤ 1MΩ 10Ω ≤ R ≤ 1MΩ < 0.05Ω	Rated current	1.0	
								Max. current	1.5	
TC164	1/16W	-55°C to +155°C	50V	100V	100V	E24 ±5% E24/E96 ±1% Zero ohm jumper	10Ω ≤ R ≤ 1MΩ 10Ω ≤ R ≤ 1MΩ < 0.05Ω	Rated current	1.0	
								Max. current	2.0	
YC158	1/16W	-55°C to +155°C	25V	50V	50V	E24 ±5%	10Ω ≤ R ≤ 100KΩ	--	--	
YC358	1/16W	-55°C to +155°C	50V	100V	100V	E24 ±5%	10Ω ≤ R ≤ 330KΩ	--	--	

Environmental characteristics			
Performance test	Test method	Procedure	Requirements
Life	MIL-STD-202G-method 108A	1 000 hours at 70 ±5°C applied RCWV 1.5 hours on, 0.5 hours off, still air required	±(2% +0.05Ω) < 100mΩ for jumper
High temperature exposure	MIL-STD-202G-method 108A	1 000 hours at maximum operating temperature depending on specification, unpowered	±(1% +0.05Ω) < 50mΩ for jumper
Moisture resistance	MIL-STD-202G-method 106F	Each temperature / humidity cycle is defined at 8 hours (method 106F), 3 cycles / 24 hours for 10d with 25°C / 65°C 95% R.H	±(2% +0.05Ω) < 100mΩ for jumper
Thermal shock	MIL-STD-202G-method 107G	LCT / UCT, number of cycles required is 300 Maximum transfer time is 20 seconds	±(0.5% +0.05Ω) for 10K to 10M ±(1% +0.05Ω) for others
Solderability	Wetting	IPC/JEDECJ-STD-002B testB Electrical test not required. Magnification 50X Leadfree solder bath at 245 ±3°C Dipping time: 3 ±0.5 seconds	Well tinned (≥95% covered)
	Resistance to soldering heat	MIL-STD-202G-method 210F Leadfree solder, 270°C, 10 seconds immersion time	±(1% +0.05Ω) < 50mΩ for jumper
Short time overload	MIL-R-55342D-para 4.7.5	2.5 times RCWV or maximum overload voltage which-ever is less for 5 seconds at room temperature	±(2% +0.05Ω) < 50mΩ for jumper

# Resistor Chip Selection Charts

## Networks, T-type and L-type

Global part number - Arrays & Networks  
 Ordering example: YC158TJR-07100K(L)

<p style="text-align: center;"><b>Y C 1 5 8 T J R - 0 7 1 0 0 K ( L )</b></p> <p>Series name (code 1-2) —————</p> <p>YC = Aarray &amp; Network (convex) thick film              TC = Array (concave) thick film</p> <p>Size code (inch) (code 3-4) —————</p> <p>10 = 0201 x 2 (0202)              12 = 0402 x 2 (0404)              0402 x 4 (0408)              15 = 10Pin/8R (0612)              16 = 0603 x 2 (0606)              0603 x 4 (0612)              24 = 0602 x 8 (0616)              32 = 1206 x 4 (1224)              35 = 10Pin/8R (1225)</p> <p>Number of resistors (code 5) —————</p> <p>2 = 2 resistors              4 = 4 resistors              8 = 8 resistors</p> <p>Schematic (code 6) —————</p> <p>L = L-type (for YC358)              T = T-type (for YC158/358)              "—" = Based on spec.</p>	<p>Optional code (code 17)</p> <p>Resistance (code 12-16)              0R = Jumper              10R = 10Ω              100R = 100Ω              100K = 100KΩ</p> <p>Taping reel (code 10-11)              07 = 7 inch Dia. reel              13 = 13 inch Dia. reel</p> <p>T.C.R. (code 9)              "—" = Based on spec.</p> <p>Packing style (code 8 )              R = Paper tape reel              K = Embossed plastic tape reel</p> <p>Tolerance (code 7)              F = ±1%              J = ±5% (for Jumper ordering)</p>
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**Note:** 1. All our RSMD products meet RoHS Compliant. "LFP" of the internal 2D reel label mentions "Lead Free Process"  
 2. On customized label, "LFP" or specific symbol printed and the optional "L" at the end of CTC/12NC can be added (both are on customer request)