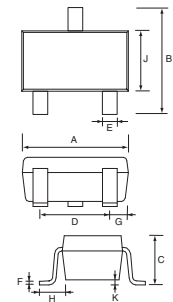


## features

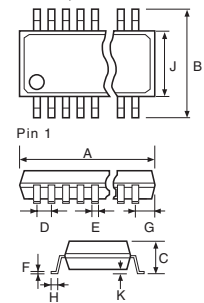
- Thin film (metal film) resistor array on silicon wafer
- Excellent resistance matching, TCR tracking and stabilities
- Custom circuits are available with flexible layout (Different resistance combinations possible)
- High integration saves board space and overall assembly costs
- Excellent reliability with standard molded IC package
- Suitable for reflow soldering
- Products with lead-free terminations meet EU RoHS and China RoHS requirements

## dimensions and construction

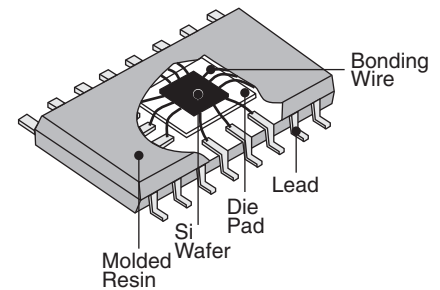
### SOT-23



### QSOP, SOIC-N



Package Symbol	Package	Pins	Dimensions inches (mm)									
			A ±0.2	B ±0.2	C ±0.2	D ±0.1	E ±0.1	F ±0.1	G ±0.1	H ±0.2	J ±0.2	K ±0.1
S03	SOT-23	3	.115 (2.92)	.091 (2.3)	.037 (0.95)	.075 (1.910)	.017 (0.44)	.005 (0.13)	.020 (0.51)	.021 (0.53)	.051 (1.3)	.004 (0.11)
Q16	QSOP	16	.193 (4.90)	.236 (5.99)	.063 (1.60)	.025 (0.635)	.010 (0.25)	.008 (0.20)	.008 (0.20)	.026 (0.66)	.150 (3.81)	.007 (0.18)
Q20		20	.058 (1.47)									
Q24		24	.033 (0.84)									
N08	SOIC-N	8	.190 (4.83)	.050 (1.27)	.016 (0.41)	.020 (0.52)	.008 (0.20)	.026 (0.66)	.150 (3.81)	.007 (0.18)		
N14		14	.341 (8.66)									
N16		16	.390 (9.91)									



## ordering information

### RBA, RBB

RBA	Q20	T	TEB	1002	B	E	B	T
<b>Circuit Code</b>	<b>Package Symbol</b>	<b>Termination Material</b>	<b>Packaging</b>	<b>Nominal Resistance</b>	<b>Absolute Tolerance</b>	<b>T.C.R.</b>	<b>Relative Res. Toler.</b>	<b>T.C.R. Tracking</b>
RBA: Bussed resistor network RBB: High speed bussed network	Package type symbol + number of pins Q16, Q20, Q24: QSOP N08, N14, N16: SOIC narrow	T: Sn (L: Sn/Pb)	TEB: 13" embossed plastic	B, C, D, F: 4 digits G, J: 3 digits	B: ±0.1% C: ±0.25% D: ±0.5% F: ±1% G: ±2% J: ±5%	T: ±10 E: ±25 C: ±50 H: ±100	A: ±0.05% B: ±0.1% C: ±0.25% D: ±0.5% F: ±1% G: ±2% Blank: Not specified	Y: ±05 T: ±10 E: ±25 C: ±50 Blank: Not specified

For further information on packaging, please refer to Appendix A.

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

3/03/17

## ordering information (continued)

### RTX

<b>RTX</b>	<b>S03</b>	<b>T</b>	<b>TE</b>	<b>7011</b>
<b>Circuit Code</b>	<b>Package Symbol</b>	<b>Termination Material</b>	<b>Packaging</b>	<b>Custom Code</b>
RTX: SOT-23 Resistor network	Package type symbol + number of pins	T: Sn (L: Sn/Pb)	TE: 7" embossed plastic (RTX, RTY SOT-23 only)	

### RDA, RDB

<b>RDA</b>	<b>Q20</b>	<b>T</b>	<b>TEB</b>	<b>471J</b>	<b>511J</b>	<b>E</b>
<b>Circuit Code</b>	<b>Package Symbol</b>	<b>Termination Material</b>	<b>Packaging</b>	<b>Nominal Resistance &amp; Tolerance of R1</b>	<b>Nominal Resistance &amp; Tolerance of R2</b>	<b>T.C.R.</b>
RDA: Dual terminator network RDB: Differential terminator network	Package type symbol + number of pins Q16, Q20: QSOP N16: SOIC narrow	T: Sn (L: Sn/Pb)	TEB: 13" embossed plastic	3 digits: G: ±2%, J: ±5%	3 digits: G: ±2%, J: ±5%	E: ±25 C: ±50 H: ±100

## ratings

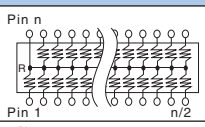
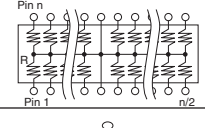
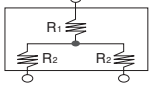
Package		QSOP			SOIC			SOT-23
Package Symbol		Q16	Q20	Q24	N08	N14	N16	S03
<b>Package Power Rating</b>		0.8W	1.0W	1.0W	0.4W	0.6W	0.8W	0.2W
<b>Resistance Range</b>	10Ω ~ 1kΩ	Power rating 200mW/resistor element *						
	1.1kΩ ~	Power rating 50mW/resistor element *						
<b>Max. Working Voltage</b>		100V						
<b>Rated Voltage</b>		√ Rated power x nominal resistance value, rated voltage should not exceed max. working voltage						
<b>Rated Ambient Temp.</b>		+70°C						
<b>Operating Temp. Range</b>		-55°C ~ +125°C **						

Above ratings are based on the thermal resistance using multi-layer circuit board (EIA/JESD51). For mounting on a mono-layer board, power derating shall be needed. Please contact us about conditions.

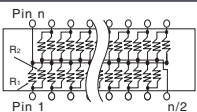
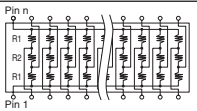
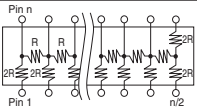
\* Total power consumption of all elements should not exceed the package power rating.

\*\* About operating temperature range -55°C ~ +155°C. We can provide custom devices. Please contact us.

## applications and ratings

Circuit Code	Circuit Schematics	Number of Pins	T.C.R. (x10 <sup>-6</sup> /K)	Resistance Range (Ω) E24 & Absolute Tolerance	
				F: ±1%	G: ±2%, J: ±5%
RBA		8, 14, 16, 20, 24	E: ±25	100 ~ 100k	100 ~ 100k
			C: ±50	51 ~ 100k	51 ~ 100k
			H: ±100	30 ~ 100k	10 ~ 100k
RBB		8, 14, 16, 20, 24	E: ±25	100 ~ 100k	100 ~ 100k
			C: ±50	51 ~ 100k	51 ~ 100k
			H: ±100	30 ~ 100k	10 ~ 100k
RTX, RTY		3(SOT-23 only)	E: ±25	100 ~ 40k	100 ~ 40k
			C: ±50	51 ~ 40k	51 ~ 40k
			H: ±100		

## applications and ratings (continued)

Circuit Code	Circuit Schematics	Number of Pins	T.C.R.	Resistance Range ( $\Omega$ ) E24 & Absolute Tolerance G: $\pm 2\%$ , J: $\pm 5\%$
RDA		16, 20	E: $\pm 25$ C: $\pm 50$ H: $\pm 100$	R1= 150 ~ 10k R1: R2= 1:1 ~ 1:4
RDB		16, 20	E: $\pm 25$ C: $\pm 50$ H: $\pm 100$	R1= 150 ~ 10k R1: R2= 1:1 ~ 1:4
RLA		14, 16	H: $\pm 100$	1k ~ 30k

## environmental applications

### Performance Characteristics

Parameter	Requirement $\Delta R \pm(\%+0.05\Omega)$		Test Method
	Limit	Typical	
Resistance	Within specified tolerance		25°C
T.C.R.	Within specified T.C.R.		+25°C/-55°C, +25°C/+125°C
Resistance to Soldering Heat	$\pm 0.1\%$	$\pm 0.05\%$	260°C $\pm 5^\circ\text{C}$ , 10 seconds $\pm 1$ second
Rapid Change of Temperature	$\pm 0.5\%$	$\pm 0.05\%$	-55°C (30 minutes), +125°C (30 minutes), 100 cycles
Moisture Resistance	$\pm 0.5\%$	$\pm 0.05\%$	40°C $\pm 2^\circ\text{C}$ , 90 - 95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 70°C	$\pm 0.25\%$	$\pm 0.05\%$	70°C $\pm 2^\circ\text{C}$ , 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
High Temperature Exposure	$\pm 0.25\%$	$\pm 0.1\%$	+125°C, 1000 hours