

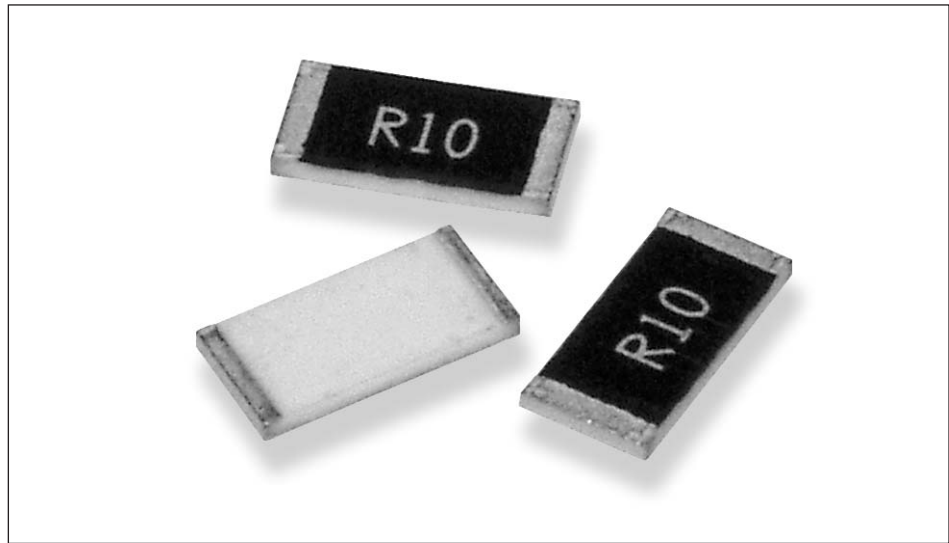
Type RL73 Series

Key Features

- Up to 1 Watt at 70°C
- Values down to R10
- 8 chip sizes
- Ideal for current detection
- Value marked on resistor
- Sizes 0201 to 2512
- 0402, 0603, 0805, 1206, 2512 stocked in distribution

Applications

- Audio
- Communications
- Automotive
- Low voltage power supplies
- Power management applications



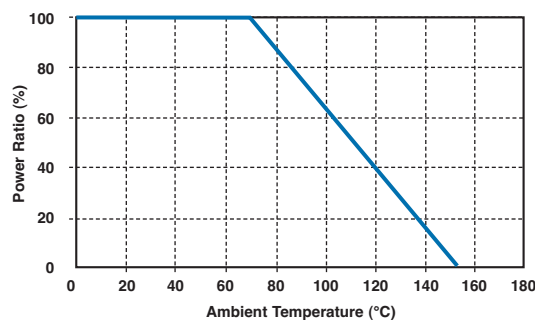
TE Connectivity are pleased to offer this thick film chip resistor for current sensing positions. It has a special metal glaze resistive element and a nickel barrier layer beneath the solder to prolong terminal life. Following the developments by semiconductor manufacturers in the production of a range of IC's for battery charge management and low voltage power supplies, the RL73 Series satisfies the demand for a low ohmic shunt resistor to act as a current sensor.

Characteristics - Electrical

Type	TCR	Power rating @ 70°C	Resistance Range	TDF	TD	TE	Tape
RL73X1H	1000PPM	0.05W	R10 - R13	1000	5000	--	Paper tape
RL73V1H	600PPM	0.05W	R15 - R47	1000	5000	--	Paper tape
RL73N1H	300PPM	0.05W	R51 - R91	1000	5000	--	Paper tape
RL73N1E	300PPM	0.0625W	R10 - R91	1000	5000	--	Paper tape
RL73N1J	300PPM	0.1W	R10 - R91	1000	5000	--	Paper tape
RL73H2A	100PPM	0.125W	R10 - R91	1000	5000	--	Paper tape
RL73K2A	200PPM	0.125W	R10 - R91	1000	5000	--	Paper tape
RL73H2B	100PPM	0.25W	R10 - R91	1000	5000	--	Paper tape
RL73K2B	200PPM	0.25W	R10 - R91	1000	5000	--	Paper tape
RL73H2E	100PPM	0.5W	R10 - R91	1000	5000	--	Paper tape
RL73K2E	200PPM	0.5W	R10 - R91	1000	5000	--	Paper tape
RL73H2H	100PPM	0.75W	R10 - R91	1000	--	4000	Embossed plastic tape
RL73K2H	200PPM	0.75W	R10 - R91	1000	--	4000	Embossed plastic tape
RL73H3A	100PPM	1W	R10 - R91	1000	--	4000	Embossed plastic tape
RL73K3A	200PPM	1W	R10 - R91	1000	--	4000	Embossed plastic tape

Operating Voltage= $\sqrt{P \cdot R}$; Overload Voltage= $2.5 \cdot \sqrt{P \cdot R}$; Operating Current= $\sqrt{P/R}$
 Maximum operating temperature -55°C to +155°C

Power Derating Curve



* Recommended Circuit Board Design

For resistors operated in ambient temperatures above 70°C, power rating must be derated in accordance with this curve.

Type RL73 Series

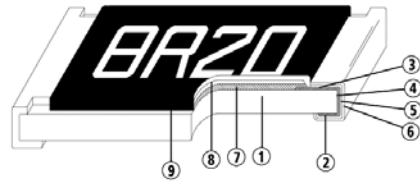
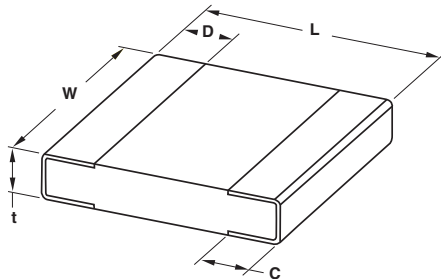
Characteristics - Environmental

Item	Requirement	Test Method
Temperature Coefficient of Resistance (TCR):	As spec	+25/-55/+25/+125/+25°C
Short Time Overload:	±0.5% ΔR ±1% for high power rating	RCWV*2.5 or Max. overload voltage for 5 seconds
Insulation Resistance:	>1000MΩ	Apply 100V _{DC} for 1 minute
Endurance:	±1%	70 ±2°C, Max. working voltage for 1000hrs with 1.5hrs "ON" and 0.5hrs "OFF"
Damp Heat with Load:	±0.5%	40 ±2°C, 90 - 95% R.H. max. working voltage for 1000hrs with 1.5hrs "ON" and 0.5hrs "OFF"
Dry Heat:	±0.5%	at +155°C for 1000hrs
Bending Strength:	As spec	Bending amplitude 3mm for 10 seconds
Solderability:	95% min. coverage	245 ±5°C for 3 seconds
Resistance to Soldering Heat:	±0.5%	260 ±5°C for 10 seconds
Dielectric Withstand Voltage:	By type	Apply Max. overload voltage for 1 minute
Thermal Shock:	±0.5%	-55°C to +150°C, 100 cycles
Low Temperature Operation:	±0.5%	1 hour, -65°C, followed by 45 minutes of RCWV

Reference Standards: MIL-STD-202, JIS-C 5201-1

Storage Temperature: 25±3°C; Humidity < 80%RH

Dimensions

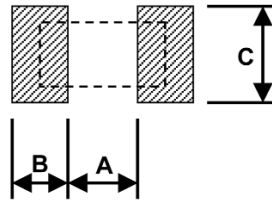


- | | | |
|--------------------------|----------------------------|--------------------------|
| 1. Alumina Substrate | 4. Edge Electrode (NiCr) | 7. Resistor Layer (NiCr) |
| 2. Bottom Electrode (Ag) | 5. Barrier Layer (Ni) | 8. Overcoat (Epoxy) |
| 3. Top Electrode (Ag-Pd) | 6. External Electrode (Sn) | 9. Marking |

Part Number	L	W	C	D	t
RL73 1H (0201)	0.58 ±0.05	0.29 ±0.05	0.15 ±0.05	0.12 ±0.05	0.23 ±0.05
RL73 1E (0402)	1.00 ±0.05	0.50 ±0.05	0.20 ±0.10	0.25 ±0.10	0.32 ±0.10
RL73 1J (0603)	1.60 ±0.10	0.80 ±0.10	0.30 ±0.20	0.30 ±0.20	0.45 ±0.10
RL73 2A (0805)	2.00 ±0.15	1.25 ±0.15	0.40 ±0.25	0.30 ±0.20	0.55 ±0.10
RL73 2B (1206)	3.10 ±0.10	1.55 ±0.15	0.40 ±0.25	0.50 ±0.30	0.55 ±0.10
RL73 2E (1210)	3.10 ±0.10	2.50 ±0.15	0.50 ±0.25	0.50 ±0.30	0.55 ±0.10
RL73 2H (2010)	5.00 ±0.20	2.50 ±0.15	0.50 ±0.25	0.60 ±0.30	0.60 ±0.15
RL73 3A (2512)	6.35 ±0.20	3.10 ±0.15	0.55 ±0.25	0.60 ±0.30	0.60 ±0.10

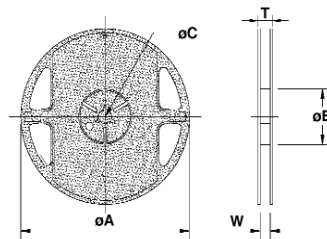
Type RL73 Series

Recommend Land Pattern



Type	A	B	C
RL73 1H (0201)	0.25	0.3	0.40 ±0.2
RL73 1E (0402)	0.5	0.5	0.60 ±0.2
RL73 1J (0603)	0.8	1.0	0.90 ±0.2
RL73 2A (0805)	1.0	1.0	1.35 ±0.2
RL73 2B (1206)	2.0	1.15	1.70 ±0.2
RL73 2E (1210)	2.0	1.15	2.50 ±0.2
RL73 2H (2010)	3.6	1.4	2.50 ±0.2
RL73 3A (2512)	4.9	1.6	3.10 ±0.2

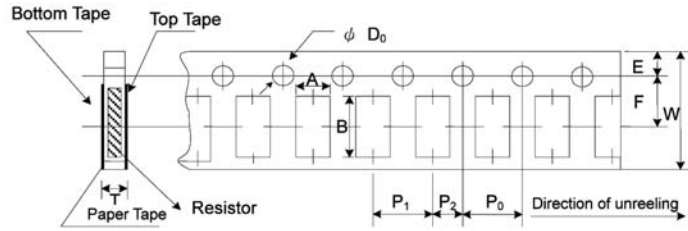
Packaging Quantity & Reel Specifications



Type	øA	øB	øC	W	T	Paper Tape	Embossed Plastic Tape
RL73 1H (0402)	178.0 ±1.0	60.0 +1.0	13.5 ±0.7	9.5 ±0.1	11.5 ±1.0	1000 / 5000	-
RL73 1E (0402)	178.0 ±1.0	60.0 +1.0	13.5 ±0.7	9.5 ±0.1	11.5 ±1.0	1000 / 5000	-
RL73 1J (0603)	178.0 ±1.0	60.0 +1.0	13.5 ±0.7	9.5 ±0.1	11.5 ±1.0	1000 / 5000	-
RL73 2A (0805)	178.0 ±1.0	60.0 +1.0	13.5 ±0.7	9.5 ±0.1	11.5 ±1.0	1000 / 5000	-
RL73 2B (1206)	178.0 ±1.0	60.0 +1.0	13.5 ±0.7	9.5 ±0.1	11.5 ±1.0	1000 / 5000	-
RL73 2E (1210)	178.0 ±1.0	60.0 +1.0	13.5 ±0.7	9.5 ±0.1	11.5 ±1.0	1000 / 5000	-
RL73 2H (2010)	178.0 ±1.0	60.0 +1.0	13.5 ±0.7	13.5 ±1.0	15.5 ±1.0	-	1000 / 4000
RL73 3A (2512)	178.0 ±1.0	60.0 +1.0	13.5 ±0.7	13.5 ±1.0	15.5 ±1.0	-	1000 / 4000

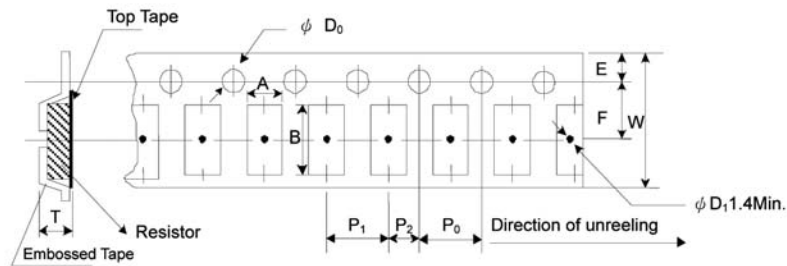
Type RL73 Series

Paper Tape Specification



Type	A	B	W	E	F	P ₀	P ₁	P ₂	øD ₀	T
RL73 1H	0.38 ±0.05	0.68 ±0.05	8.0 ±0.20	1.75 ±0.10	3.50 ±0.05	4.00 ±0.10	2.00 ±0.05	2.00 ±0.05	1.50+0.1,-0	0.42 ±0.20
RL73 1E	0.65 ±0.10	1.15 ±0.10	8.0 ±0.20	1.75 ±0.10	3.50 ±0.05	4.00 ±0.10	2.00 ±0.05	2.00 ±0.05	1.50+0.1,-0	0.45 ±0.10
RL73 1J	1.10 ±0.10	1.90 ±0.10	8.0 ±0.20	1.75 ±0.10	3.50 ±0.05	4.00 ±0.10	4.00 ±0.05	2.00 ±0.05	1.50+0.1,-0	0.70 ±0.10
RL73 2A	1.60 ±0.10	2.40 ±0.20	8.0 ±0.20	1.75 ±0.10	3.50 ±0.05	4.00 ±0.10	4.00 ±0.05	2.00 ±0.05	1.50+0.1,-0	0.85 ±0.10
RL73 2B	1.90 ±0.10	3.50 ±0.20	8.0 ±0.20	1.75 ±0.10	3.50 ±0.05	4.00 ±0.10	4.00 ±0.05	2.00 ±0.05	1.50+0.1,-0	0.85 ±0.10
RL73 2E	2.90 ±0.10	3.50 ±0.20	8.0 ±0.20	1.75 ±0.10	3.50 ±0.05	4.00 ±0.10	4.00 ±0.05	2.00 ±0.05	1.50+0.1,-0	0.85 ±0.10

Embossed Plastic Tape Specifications



Type	A	B	W	E	F	P ₀	P ₁	P ₂	øD ₀	T
RL73 2H	2.80±0.10	5.50±0.10	12.0±0.10	1.75±0.10	5.5±0.05	4.00±0.05	4.00±0.10	2.00±0.05	1.50+0.10	1.00±0.20
RL73 3A	3.50±0.10	6.70±0.10	12.0±0.10	1.75±0.10	5.5±0.05	4.00±0.05	4.00±0.10	2.00±0.05	1.50+0.10	1.00±0.20

How to Order

RL73	H	2A	R10	F	TG
Common Part	TCR	Size	Resistor Value	Tolerance	Packaging
RL73	X -1000PPM V - 600PPM N - 300PPM H - 100PPM K - 200PPM See above for applicability	1H -0201 1E -0402 1J -0603 2A -0805 2B -1206 2E -1210 2H -2010 3A -2512	0.1 Ohm (100milliOhm) R10 0.91 Ohm (910 milliOhm) R91	F - ±1% J - ±5%	TDF -1000 REEL TD -5000 REEL TE -4000 REEL See above for applicability

TE Connectivity, TE connectivity (logo) and TE (logo) are trademarks.
Other logos, product and Company names mentioned herein may be trademarks of their respective owners.

While TE has made every reasonable effort to ensure the accuracy of the information in this datasheet, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this datasheet are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.