

## features

- Very low resistance, high precision reliability
- Utilization of thick film
- Low T.C.R. achieved ( $\pm 100$  ppm/ $^{\circ}$ C)
- Marking: Indigo body color with white marking
- Products with lead-free terminations meet EU RoHS requirements. EU RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.



## dimensions and construction



Size Code	Resistance Range ( $\Omega$ )	Dimensions inches (mm)				
		L	W	h	a	b
D1E	24m ~ 100m	$.039^{+.004}_{-.002}$	$.020^{+.004}_{-.002}$	$.016 \pm .002$	$.010 \pm .004$	$.012 \pm .004$
		(1.0 <sup>+0.1</sup> <sub>-0.05</sub> )	(0.5 <sup>+0.1</sup> <sub>-0.05</sub> )	(0.4 $\pm$ 0.05)	(0.25 $\pm$ 0.1)	(0.3 $\pm$ 0.1)
D1J	10m ~ 27m	$.063 \pm .008$	$.031^{+.005}_{-.004}$	$.02 \pm .004$	$.014 \pm .004$	$.022 \pm .004$
	30m ~ 100m	(1.6 $\pm$ 0.2)	(0.8 <sup>+0.15</sup> <sub>-0.1</sub> )	(0.5 $\pm$ 0.1)	(0.35 $\pm$ 0.1)	$.014 \pm .004$ (0.35 $\pm$ 0.1)
D2A	10m ~ 16m	$.079 \pm .008$	$.049 \pm .008$	$.022 \pm .004$	$.016 \pm .008$	$.024 \pm .008$
	18m ~ 30m	(2.0 $\pm$ 0.2)	(1.25 $\pm$ 0.2)	(0.55 $\pm$ 0.1)	(0.4 $\pm$ 0.2)	$.02 \pm .008$ (0.5 $\pm$ 0.2)
2A	33m ~ 100m	$.079 \pm .008$	$.049 \pm .008$	$.02 \pm .004$	$.016 \pm .008$	$.012^{+.008}_{-.004}$ (0.3 <sup>+0.2</sup> <sub>-0.1</sub> )
D2B	10m ~ 16m	$.126 \pm .008$	$.063 \pm .008$	$.024 \pm .004$	$.020 \pm .008$	$.039 \pm .008$
	18m ~ 27m	(3.2 $\pm$ 0.2)	(1.6 $\pm$ 0.2)	(0.6 $\pm$ 0.1)	(0.5 $\pm$ 0.2)	(1.0 $\pm$ 0.2) $.031 \pm .008$ (0.8 $\pm$ 0.2)
2B	30m ~ 100m	$.126 \pm .008$	$.063 \pm .008$	$.024 \pm .004$	$.020 \pm .012$	$.016^{+.008}_{-.004}$ (0.4 <sup>+0.2</sup> <sub>-0.1</sub> )
D2H	10m ~ 30m	$.197 \pm .008$	$.098 \pm .008$	$.026 \pm .004$	$.026 \pm .012$	$.063 \pm .012$
	33m ~ 100m	(5.0 $\pm$ 0.2)	(2.5 $\pm$ 0.2)	(0.65 $\pm$ 0.1)	(0.65 $\pm$ 0.3)	(1.6 $\pm$ 0.3) $.026 \pm .012$ (0.65 $\pm$ 0.3)
D3A	10m ~ 30m	$.248 \pm .008$	$.122 \pm .008$	$.024 \pm .004$	$.031 \pm .012$	$.079 \pm .012$
	33m ~ 100m	(6.3 $\pm$ 0.2)	(3.1 $\pm$ 0.2)	(0.6 $\pm$ 0.1)	(0.8 $\pm$ 0.3)	(2.0 $\pm$ 0.3) $.031 \pm .012$ (0.8 $\pm$ 0.3)

## ordering information

New Part #	UR73	2A	T	TD	R100	F
Type	UR73 UR73D	Power Rating	Termination Material	Packaging	Nominal Resistance	Tolerance
		1E: 0.125W 1J: 0.2W 2A: 0.25W 2B: 0.5W 2H: 0.75W 3A: 1W	T: Sn	TP: 2mm pitch punch paper (1E) TD: 7" punched paper tape (1J, 2A, 2B) TE: 7" embossed plastic (2H, 3A)	All values less than 0.1 $\Omega$ (100m $\Omega$ ) are expressed in m $\Omega$ with "L" as decimal. Ex: 20m $\Omega$ = 20L0	F: $\pm 1\%$

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.

1/10/11

## applications and ratings

Part Designation	Power* Rating	T.C.R. (ppm/°C) Max.	Resistance Range	Absolute Maximum Working Voltage	Maximum Overload Voltage (5 sec. max.)	Operating Temperature Range
			F (±1%) E-24, 25mΩ, 50mΩ			
UR73D1E	1/8W (.125W)	±100	30mΩ - 100mΩ	$\sqrt{P \cdot R}$	$\sqrt{P \cdot R} \times 2.5$	-55°C to +125°C
		±500	24mΩ - 27mΩ			
UR73D1J	1/5W (.2W)	±100	47mΩ - 100mΩ			
		±200	30mΩ - 43mΩ			
		±300	10mΩ - 27mΩ			
UR73D2A	1/4W (.25W)	±250	10mΩ - 30mΩ			
UR732A	1/4W (.25W)	±100	47mΩ - 100mΩ			
		±250	33mΩ - 43mΩ			
UR73D2B	1/2W (.5W)	±200	10mΩ - 27mΩ			
UR732B	1/2W (.5W)	±100	47mΩ - 100mΩ			
		±200	30mΩ - 43mΩ			
UR73D2H	3/4W (.75W)	±250	10mΩ - 30mΩ			
		±100	33mΩ - 100mΩ			
UR73D3A	1W (1W)	±250	10mΩ - 30mΩ			
		±100	33mΩ - 100mΩ			

\* Power rating is guaranteed by the Temperature Rise data shown below

## environmental applications

### Derating Curve

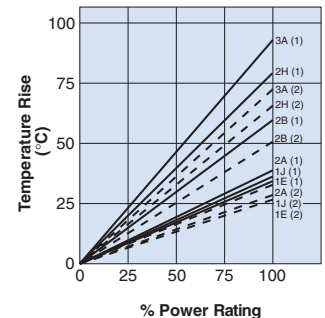


For resistors operated at an ambient temperature of 70°C or above, a power rating shall be derated in accordance with the above derating curve.

### Surface Temperature Rise



UR73D 1J, 2A, 2B, 2H, 3A 10mΩ  
UR73D 1E 24mΩ



Regarding the temperature rise, the value of the temperature varies per conditions and board for use since the temperature is measured under our measuring conditions.

## Performance Characteristics

Parameter	Requirement $\Delta R \pm(\%+0.005\Omega)$		Test Method
	Limit	Typical	
Resistance	Within specified tolerance	—	25°C
T.C.R.	Within specified T.C.R.	—	+25°C/+55°C and +25°C/+125°C
Overload (Short time)	±2%	±0.5%	Rated power x 2.5 for 5 seconds
Resistance to Solder Heat	±1%	±0.3%	260°C ± 5°C, 10 ± 1 second
Rapid Change of Temperature	±1%	±0.5%	-55°C (30 minutes), +125°C (30 minutes), 100 cycles
Moisture Resistance	±2%	±1%	40°C ± 2°C, 90%~95%RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
Endurance at 70°C	±2%	±1%	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle
High Temperature Exposure	±1%	±0.3%	+125°C, 1000 hours

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

12/17/12