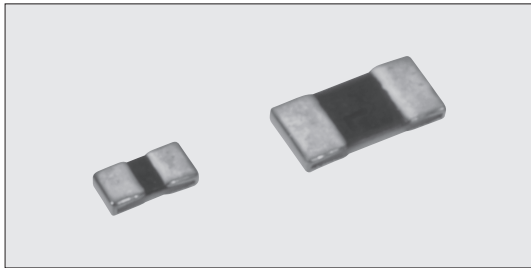


THICK FILM (For Embedded Substrates)



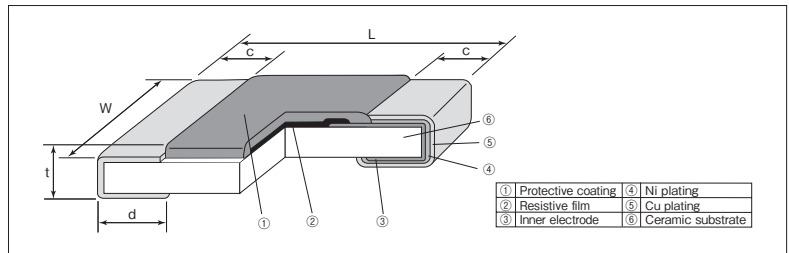
Flat Chip Resistors

XR73B·XR73H·XR73Z ■ Flat Chip Resistors For Embedded Substrates



Coating color : Black

Construction



Features

- Interlayer embedding in the multilayer substrate is applicable from the height of from 0.13 to 0.14mm.
- Cu via hole connection is applicable by the Cu electrode.

Applications

- Communication module, Semiconductor packaging substrate.
- Smart phone, Tablet PC, Notebook PC, Wearable Device etc.

Reference Standards

IEC 60115-8
JIS C 5201-8
EIAJ RC-2134A

Dimensions

Type (Inch Size Code)	Dimensions (mm)					Weight (g) (1000pcs)
	L	W	c	d	t	
1H (0201)	0.6±0.03	0.3±0.03	0.23±0.03	0.23±0.03	0.13±0.02	0.11
1E (0402)	1.0±0.05	0.5±0.05	0.28±0.05	0.28±0.05	0.14±0.03	0.26

Type Designation

Example

XR73H	1E	U	TWL	103	F
Product Code	Power Rating	Terminal Surface Material	Taping	Nominal Resistance	Resistance Tolerance
XR73B XR73H	1H : 0.063W 1E : 0.063W	U : Cu	TWL: 2mm pitch plastic embossed TWA: 1mm pitch plastic embossed BK : Bulk	F : 4 digits J : 3 digits	F : ±1% J : ±5%

XR73Z	1E	U	TWL
Product Code	Current Rating	Terminal Surface Material	Taping
XR73Z	1H : 1A 1E : 1A	U : Cu	TWL: 2mm pitch plastic embossed TWA: 1mm pitch plastic embossed BK : Bulk

Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.
For the specification of TWA taping is 1H only.
For further information on taping, please refer to APPENDIX C on the back pages.

Ratings

XR73B, XR73H

Type	Power ^{※1} Rating	Rated Ambient Temp.	T.C.R. (×10 ⁻⁶ /K)	Resistance Range (Ω)		Max. Working Voltage	Max. Overload Voltage	Taping & Q' ty /Reel (pcs)	
				XR73H F : ±1% E24·E96	XR73B J : ±5% E24			TWL	TWA
1H	0.063W	70°C	±200	10~1M	10~10M	50V	100V	20,000	40,000
			±400	1.0~9.1 ^{※2}	1.0~9.1				
			±100	10~1M	—				
1E	0.063W		±200	1.0~9.76 1.02M~10M	1.0~10M	50V	100V	20,000	—

Operating Temperature Range : -55°C ~ +155°C

Rated voltage = √ Power Rating × Resistance value or Max. working voltage, whichever is lower.

※1 The ratings will be for the surface mounted condition.

※2 The nominal resistance value for XR73H1H (1Ω ≤ R ≤ 9.1Ω) is E24.

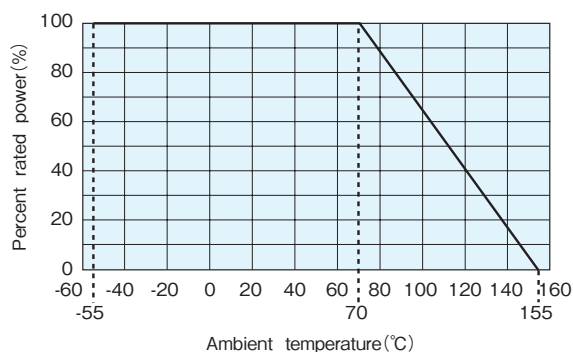
XR73Z

Type	Resistance	Current [※] Rating	Rated Ambient Temp.	Max. Overload Current	Taping & Q' ty /Reel (pcs)	
					TWL	TWA
1H	50mΩ max.	1A	70°C	2A	20,000	40,000
1E		1A		2A	20,000	—

Operating Temperature Range : -55°C ~ +155°C

※ The ratings will be for the surface mounted condition.

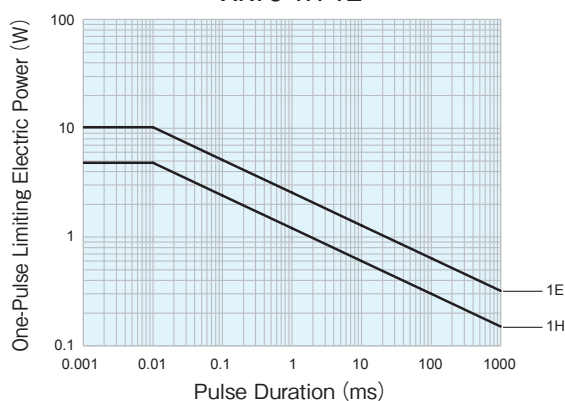
Derating Curve



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

One-Pulse Limiting Electric Power

XR73 1H-1E



The maximum applicable voltage is equal to the max. overload voltage. Please ask us about the resistance characteristic of continuous applied pulse. The pulse endurance values are not assured values, so be sure to check the products on actual equipment when you use them.

Performance*

Test Items	XR73H, XR73B		XR73Z		Test Methods
	Performance Requirements $\Delta R \pm (\% + 0.05\Omega)$		Performance Requirements		
	Limit	Typical	Limit	Typical	
Resistance	Within specified tolerance	—	50m Ω Max. after the test	15m Ω Max. after the test	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	50m Ω Max. after the test	R \leq 20m Ω : 1E R \leq 40m Ω : 1H	Rated voltage(DC) \times 2.5 for 5s (1H: Rated voltage(DC) \times 2 for 5s)
Rapid change of temperature	1	0.5	100m Ω Max. after the test	R \leq 20m Ω : 1E R \leq 40m Ω : 1H	-55°C (30min.) / +125°C (30min.) 100 cycles
Moisture resistance	3	1.5	100m Ω Max. after the test	R \leq 20m Ω : 1E R \leq 40m Ω : 1H	40°C \pm 2°C, 90%~95%RH, 1000h 1.5h ON / 0.5h OFF cycle
Endurance at 70°C	3	1	100m Ω Max. after the test	R \leq 20m Ω : 1E R \leq 40m Ω : 1H	70°C \pm 2°C, 1000h 1.5h ON / 0.5h OFF cycle
High temperature exposure	1	0.5	100m Ω Max. after the test	R \leq 20m Ω : 1E R \leq 40m Ω : 1H	+155°C, 1000h

* The performance will be for the surface mounted condition.

Precautions for Use

- This product is on the assumption that it is connected by embedding the product into the board and then Cu plating. Please evaluate the connection before use.
- This product is a very thin chip compared to the general flat chip resistors so, please adjust the mounting conditions appropriately (Nozzle figure, push in amount, mounting speed etc...).
- The heat dissipation condition differs depending on the material of the board and wiring pattern so please evaluate under the embedded condition before use.