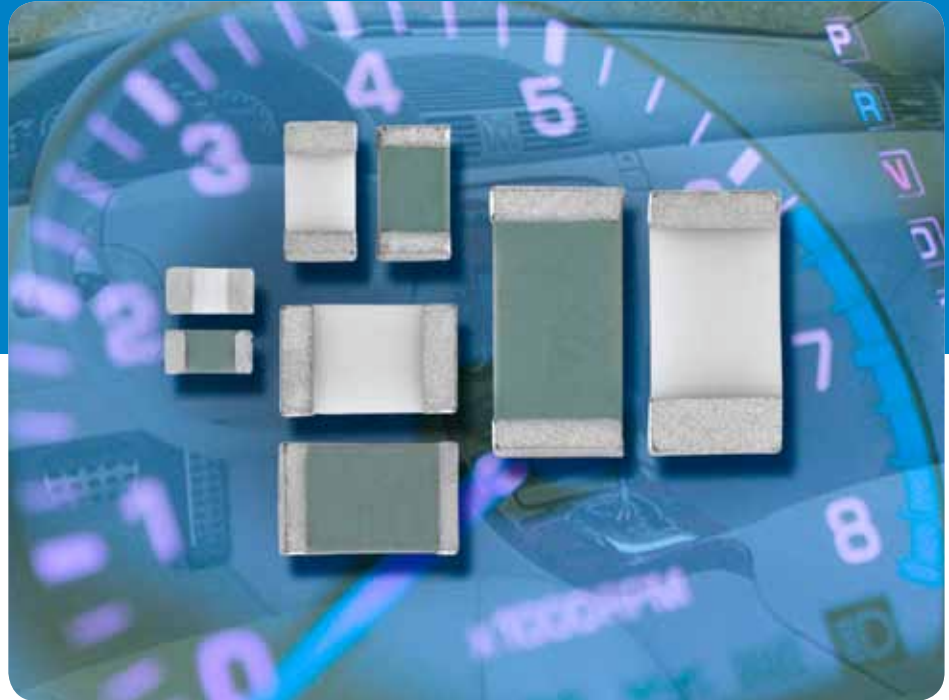




THIN FILM RESISTORS

MCS 0402, MCT 0603, MCU 0805, and MCA 1206 Series



Professional Thin Film Flat Chip Resistors

KEY BENEFITS

- Thin film technology
- Temperature coefficient of resistance (TCR): ± 25 to ± 50 ppm/K
- Professional tolerance options: ± 0.5 and ± 1 %
- Overall stability: class 0.5 and 1
- Approved according to EN 140 401-801

APPLICATIONS

- Telecommunications
- Industrial equipment
- Automotive electronics
- Test and measurement equipment
- Medical equipment

Datasheet is available on our web site at www.vishay.com
for Professional Flat Chip Resistors - <http://www.vishay.com/doc?28705>

Professional Thin Film Chip Resistors

FEATURES

- Approved according to EN 140401-801
- Excellent overall stability: Class 0.5
- Professional tolerance of value: $\pm 0.5\%$ and $\pm 1\%$
- Lead (Pb)-free solder contacts
- Compliant to RoHS directive 2002/95/EC

APPLICATIONS

- Automotive
- Telecommunication
- Medical equipment
- Industrial equipment



RoHS COMPLIANT



MCS 0402, MCT 0603, MCU 0805 and MCA 1206 Professional Thin Film Flat Chip Resistors are the perfect choice for most fields of modern professional electronics where reliability and stability is of major concern. Typical applications include telecommunication, medical equipment and high-end computer and audio/video electronics.

METRIC SIZE	
INCH:	0402 0603 0805 1206
METRIC:	RR 1005M RR 1608M RR 2012M RR 3216M

TECHNICAL SPECIFICATIONS	MCS 0402		MCT 0603		MCU 0805		MCA 1206	
	Standard	Power	Standard	Power	Standard	Power	Standard	Power
DESCRIPTION	RR 1005M	RR 1608M	RR 1005M	RR 1608M	RR 2012M	RR 3216M	RR 2012M	RR 3216M
Resistance range	10 Ω to 4.99 M Ω		1 Ω to 10 M Ω		1 Ω to 10 M Ω		1 Ω to 2 M Ω	
Resistance tolerance	$\pm 1\%$; $\pm 0.5\%$							
Temperature coefficient	± 50 ppm/K; ± 25 ppm/K							
Operation mode	Standard	Power	Standard	Power	Standard	Power	Standard	Power
Climatic category (LCT/UCT)(days)	55/125/56	55/155/56	55/125/56	55/155/56	55/125/56	55/155/56	55/125/56	55/155/56
Rated dissipation, P_{70} (1)	0.063 W	0.1 W	0.125 W	0.125 W	0.2 W	0.25 W	0.4 W	0.4 W
Operating voltage, U_{max} , AC/DC	50 V		75 V		150 V		200 V	
Film temperature	125 °C	155 °C	125 °C	155 °C	125 °C	155 °C	125 °C	155 °C
Max. resistance change at P_{70} for resistance range, $ \Delta R/R $ max., after:	10 Ω to 4.99 M Ω		1 Ω to 10 M Ω		1 Ω to 10 M Ω		1 Ω to 10 M Ω	
1000 h	$\leq 0.25\%$	$\leq 0.5\%$	$\leq 0.25\%$	$\leq 0.5\%$	$\leq 0.25\%$	$\leq 0.5\%$	$\leq 0.25\%$	$\leq 0.5\%$
8000 h	$\leq 0.5\%$	$\leq 1.0\%$	$\leq 0.5\%$	$\leq 1.0\%$	$\leq 0.5\%$	$\leq 1.0\%$	$\leq 0.5\%$	$\leq 1.0\%$
225 000 h	$\leq 1.5\%$	$\leq 1.5\%$	$\leq 1.5\%$	$\leq 1.5\%$	$\leq 1.5\%$	$\leq 1.5\%$	$\leq 1.5\%$	$\leq 1.5\%$
Insulation voltage:	75 V	100 V	75 V	100 V	200 V	300 V	75 V	75 V
1 min; U_{res}	75 V	75 V	75 V	75 V	75 V	75 V	75 V	75 V
Continuous	$\leq 0.1 \times 10^{-9}$ /h		$\leq 0.1 \times 10^{-9}$ /h		$\leq 0.1 \times 10^{-9}$ /h		$\leq 0.1 \times 10^{-9}$ /h	
Failure rate: FT _{observed}								

Notes

- (1) The power dissipation on the resistor generates a temperature rise against the local ambient, depending on the heat flow support of the printed-circuit board (thermal resistance). The rated dissipation applies only if the permitted film temperature is not exceeded.
- These resistors do not feature a limited lifetime when operated within the permissible limits. However, resistance value drift increasing over operating time may result in exceeding a limit acceptable to the specific application, thereby establishing a functional lifetime.

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For technical questions, contact thinfilmchip@vishay.com

PART NUMBER AND PRODUCT DESCRIPTION (1)

PART NUMBER: MCT0603004641DPW00

M	C	T	0	6	0	3	0	0	4	1	6	4	1	D	P	W	0	0
MODEL/SIZE	SPECIAL CHARACTER		TCR		VALUE		TOLERANCE		PACKAGING		SPECIAL							
MCS0402 MCT0603 MCU0805 MCA1206	0 = Neutral		D = ± 25 ppm/K C = ± 50 ppm/K Z = Jumper		3 digit value 1 digit multiplier MULTIPLIER 7 = $\times 10^{-3}$ 8 = $\times 10^{-2}$ 9 = $\times 10^{-1}$ 0 = $\times 10^0$ 1 = $\times 10^1$ 2 = $\times 10^2$ 3 = $\times 10^3$ 4 = $\times 10^4$ 5 = $\times 10^5$ 6 = $\times 10^6$ 0000 = Jumper		D = $\pm 0.5\%$ F = $\pm 1\%$ Z = Jumper		P5 PW EO		Up to 2 digits 00 = Standard							

PRODUCT DESCRIPTION: MCT 0603-25 0.5 % PW 4K64

MCT	0603	-25	0.5 %	PW	4K64
MODEL	SIZE	TCR	TOLERANCE	PACKAGING	RESISTANCE VALUE
MCS MCT MCU MCA	0402 0603 0805 1206	± 25 ppm/K ± 50 ppm/K	$\pm 0.5\%$ $\pm 1\%$	P5 PW EO	47K = 47 k Ω 50R1 = 50.1 Ω 0R0 = Jumper (e)

Notes

- (1) Products can be ordered using either the PRODUCT DESCRIPTION or the PART NUMBER
- (2) Jumpers are ordered by the resistance value 0 Ω , e.g. MCT 0603 P5 0R0

TEMPERATURE COEFFICIENT AND RESISTANCE RANGE

DESCRIPTION	RESISTANCE VALUE (2)	
TCR	MCT 0603	MCU 0805
± 50 ppm/K	1 Ω to 10 M Ω	1 Ω to 10 M Ω
± 25 ppm/K	100 Ω to 251 k Ω	10 Ω to 1.5 M Ω
Jumper	100 Ω to 221 k Ω	10 Ω to 1.5 M Ω
	≤ 20 m Ω	≤ 20 m Ω
	$I_{max} = 1$ A	$I_{max} = 1.5$ A
		$I_{max} = 2$ A

PACKAGING

MODEL	PIECES/ PAPER TAPE ON REEL	CODE
MCS 0402	10,000	E0
MCT 0603	5000	P5
MCU 0805	20,000	PW
MCA 1206	5000	P5
	20,000	PW
	5000	P5

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