RC MODULE
CIRCUIT MODULE (HYBRID IC)

ARC, ARCL & CNTL Series

Murata's RC-Module is a thick-film module using Murata's own alumina substrate, thick-film resistors and chip monolithic ceramic capacitors.

APPLICATIONS

- Noise suppression in all electronic equipment
- EMI/RFI filtering
- HVAC, PC's, appliance, test equipment, audio, automotive (85°C), factory automation, and communication equipment

FEATURES

- Low profile/small size
- 1.78mm & 2.54mm lead pitch
- Excellent quality/reliability
- 3-pin taping (5~9 pin) for automation
- Custom designs also available
- R's & C's E 12 values

E 12 VALUES

10	22	47
12	27	56
15	33	68
18	39	82

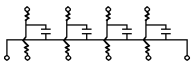
Value (Code)

Example: 22pF(220k), 220pF(221k), 10Ω(100J), 100Ω(101J)

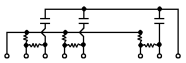
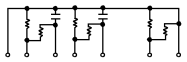
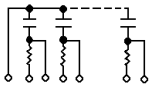
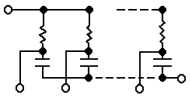
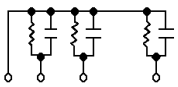
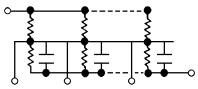
MECHANICAL SPECIFICATIONS

Substrate:	Alumina 96%
Resistor:	Cermet
Capacitor:	Monolithic ceramic
Coating:	Meets UL94V–0
Conductor:	Copper (Cu)
Lead Frame:	Steel dipped in solder

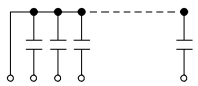
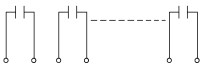
ARC Series

Circuit Type	Circuit Composition	Number of Elements	Power Rating	Rated Voltage (C)	Lead Pitch (Options)	Height
D ①		R=8 C=4 P=10	100mW	50V 25V if capacitance is 68000pF or 0.1μF.	2.54 (mm)	MAX 7.6 (mm)
I ①		R=4~10 C=4~10 P=5~11	100mW	50V 25V if capacitance is 68000pF or 0.1μF.	2.54 (mm)	MAX 7.6 (mm)

ARCL Series

F ②		R=4~10 C=2~5 P=6,8,10,12	100mW	50V 25V if capacitance is 68000pF or 0.1μF	2.54/1.78 (mm)	MAX 5.5 (mm)
G ②		R=4~10 C=2~5 P=5,7,9,11	100mW	50V 25V if capacitance is 68000pF or 0.1μF	2.54/1.78 (mm)	MAX 5.5 (mm)
L ②		R=2~5 C=2~5 P=5,7,9,11	100mW	50V 25V if capacitance is 68000pF or 0.1μF	2.54/1.78 (mm)	MAX 5.5 (mm)
S ②		R=3~9 C=3~9 P=5~11	100mW	50V 25V if capacitance is 68000pF or 0.1μF	2.54/1.78 (mm)	MAX 5.5 (mm)
X ②		R=4~10 C=4~10 P=5~11	100mW	50V 25V if capacitance is 68000pF or 0.1μF	2.54/1.78 (mm)	MAX 5.5 (mm)
Z ②		R=6~18 C=3~9 P=5~11	100mW	50V 25V if capacitance is 68000pF or 0.1μF	2.54/1.78 (mm)	MAX 5.5 (mm)

CNTL Series

X ②		C=4~11 P=5~12	100mW	50V 25V if capacitance is 68000pF or 0.1μF.	2.54/1.78 (mm)	MAX 5.5 (mm)
Y ②		C=3~6 P=6,8,10,12	100mW	50V 25V if capacitance is 68000pF or 0.1μF.	2.54/1.78 (mm)	MAX 5.5 (mm)

Note: 1. R=Resistor, C=Capacitor, P=Number of Pins (Leads).
2. 3-Pin taping available for 5 pins to 9 pins (1Kpcs Quantity's)(CNTL & ARCL only).

HOW TO BUILD PART NUMBER

You Need		PN for 2.54mm Pitch	PN for 1.78mm Pitch
• 8 cap., 9-pin, X type CNTL, 1000pF	=	CNTL9XW102M	CNTL9XS102M
• 9R, 9C, 10-pin, I type ARC 56 ohms, 100pF	=	ARC10I560J101K	n/a
• 9R, 9C, 11-pin, S type ARCL 1,000Ω, 10,000pF	=	ARCL11L102J103M	ARCL11LS102J103M

ARC, ARCL, CNTL Series

RATINGS

Resistor	**Rating**	100mW/Element			
	Resistance	10Ω ~ 1MΩ (E12 Series)			
	Tolerance	J: ±5%			
	Temp. Char.	±250ppm/°C			
Capacitor	**Capacitance**	22pF ~ 470pF (E12)	560pF ~ 15000pF (E12)	22000pF 33000pF 47000pF	68000pF 0.1μF
	Tolerance	K: ±10%	M: ±20%	Z: ±80%/–20%	
	Temp. Char.	COG	X7R	Y5V	
Rated Voltage		50V			25V
Operating Temp. Range (Topr)		–35°C ~ +80°C			
Storage Temp. Range (Tstg)		–40°C ~ +85°C			

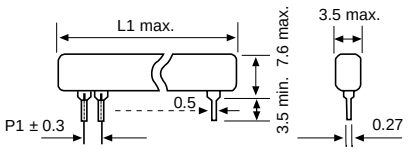
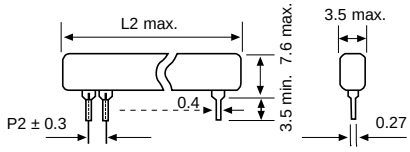
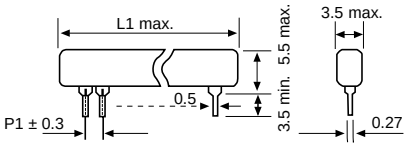
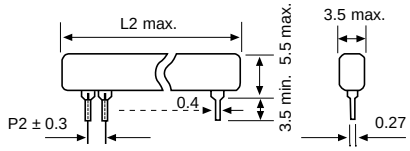
Note: These parts are for use in industrial and consumer related electronic equipment. DO NOT USE for critical applications such as airbag, ABS brakes, or life sustaining medical equipment. Contact Murata Electronics engineers for such applications.

LENGTH: mm

※ Number of Pins	5	6	7	8	9	10	11	12
L1 Length (max.)	15.0	17.5	20.0	22.5	25.0	27.5	30.0	32.5
L2 Length (max.)	11.5	13.5	15.0	17.0	19.0	20.5	22.5	24.0

※ Please inquire for RC-Modules with the number of pins not listed above.

DIMENSIONS: mm

Dimensions (ARC)		
Lead-Pitch	P1 = 2.54mm (Inch-pitch) (W)	P2 = 1.78mm (Shrink-pitch) (S)
Dimensions (ARCL, CNTL)		
Lead-Pitch	P1 = 2.54mm (Inch-pitch) (W)	P2 = 1.78mm (Shrink-pitch) (S)

PART NUMBERING

(Please specify the part number when ordering.)

(Ex.) **ARCL** **10** **S** **S** **103J** **102M** – □
① ② ③ ④ ⑤ ⑥ ⑦

① Murata RC-Module (ARCL series) or ARC type
② Number of Pins
③ The type of circuit composition (F, G, L, S, X, Z = ARCL)
④ Lead Pitch (D, I = ARC)

Inch-pitch (2.54mm)	Shrink-pitch (1.78mm)
No marking	S

⑤ Resistance Value and Tolerance (10,000Ω)
⑥ Capacitance Value and Tolerance (1,000pF)
⑦ Special Specifications

(Please specify the part number when ordering.)

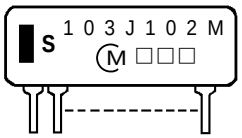
(Ex.) **CNTL** **6** **Y** **W** **102M** – □
① ② ③ ④ ⑤ ⑥

① Murata C-Module. (CNTL series)
② Number of Pins.
③ The type of circuit composition. (X, Y)
④ Lead Pitch

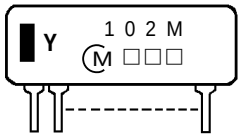
Inch-pitch	Shrink-pitch
W (2.54mm)	S (1.78mm)

⑤ Resistance Value and Tolerance 1,000Ω (102M)
⑥ Special Specifications

MARKING



(Ex.)
1) Circuit Type ····· S
2) Resistance Value and Tolerance, 10,000Ω (103J)
Capacitance Value and Tolerance ····· 1,000Ω (102M)
3) Manufacturer's symbol ····· Ⓜ
4) Manufacturing lot No. ····· □□□
5) Marking at pin one ····· ▮



(Ex.)
1) Circuit Type ····· Y
2) Capacitance Value and Tolerance ····· 1,000pF (102M)
3) Manufacturer's symbol ····· Ⓜ
4) Manufacturing lot No. ····· □□□
5) Marking at pin one ····· ▮