

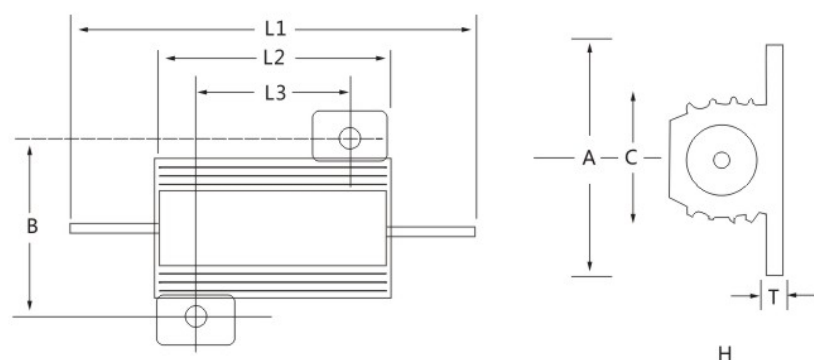
CUMN Mini-Ohm Resistors

CUNI

Characteristics:

Items	Spec.Level
Resistance value	Within the tolerance
short time overload	Tolerable change within $\pm(2\%+0.05\Omega)$. No visual damage & marking legible.
Humidity load life	No remarkable abnormalities on Appearance. Marking shall be legible Variation of resistance $(5\%+0.1\Omega)$
Dielectric withstanding voltage	Flash over, burning or insulation damages should not be observed.
Load life	No remarkable abnormalities on Appearance. Marking shall be legible Variation of resistance $(5\%+0.1\Omega)$
Terminal strength	Pull 5W-1KG, 10W-2.3KG, 25W & 50W-4.5KG
	Bend 100W-25KG/CM 250W-35KG/CM
Vibration	Tolerable change within $\pm(1\%+0.05\Omega)$ No mechanical damage be observed.
Resistance to soldering heat	Tolerable change within $\pm(1\%+0.05\Omega)$ No mechanical damage & no notable damage be observed in appearance.
Solder ability	4/5 area of circular surface be wet with new solder.

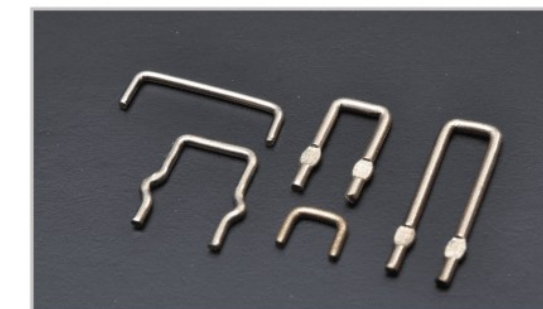
Dimensions:



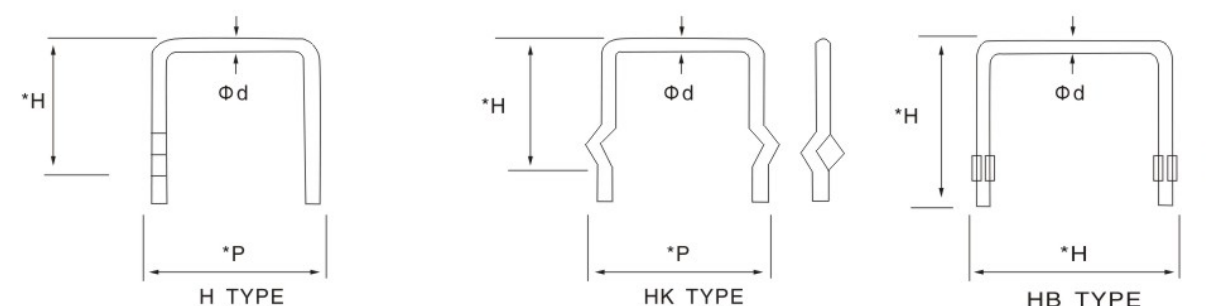
STYLE	Dimension							
	L1min	L2 ± 1	L3 ± 1	A ± 1	B ± 1	C ± 1	H ± 1	T ± 0.5
AL5W***J	25	15.5	11.5	16.5	12.5	8.5	8.5	1.6
AL10W***J	30	19	14.5	20.5	16.0	11.0	10.0	2.0
AL25W***J	45	27	18.5	27.5	20.0	14.0	14.0	2.0
AL50W***J	65	50	40.0	29.5	21.5	16.0	16.0	2.0

Features:

- Any type is available for practical need.
- P&H dimensions are determined by what the resistance and soldering are.



FORMING TYPE



EXPLANATION ON PART NUMBERS

CUMN CUNI	08	R005	H	J	03 A
Product Code	Diameter	Nominal Resistance	Forming Type	Resistance Tolerance	Dimension (TAI's Code)
Mini Ohm Resistors	04- Φ 0.4 08- Φ 0.8 10- Φ 1.0 20- Φ 2.0	R005=0.05 Ω	H Type HK Type HB Type	F($\pm 1\%$) J($\pm 5\%$) K($\pm 10\%$)	03=5(mm) A=3.5(mm) B=3.8(mm) C=4(mm)

Forming & Color Code

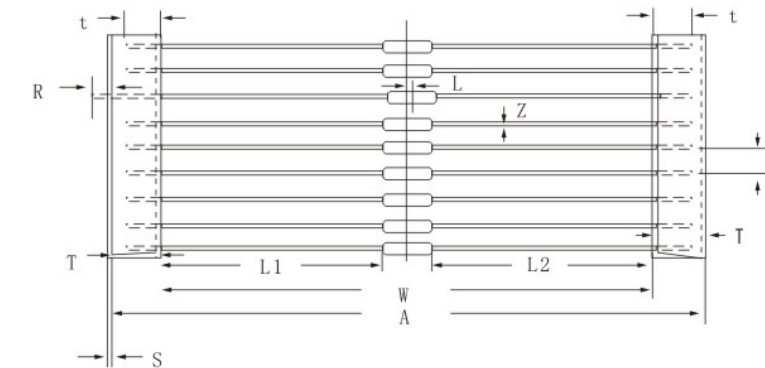
Axial Type

FEATURES

TYPE	Φd(mm)	Max. Current Rating(A)	Resistance Range(mΩ)	Resistance Tolerance	Operating Temp Range	T.C.R. (PPM/°C)
CUMN04 CUNI	0.4	2.0	70~200	F(±1%) G(±2%) J(±5%) K(±10%)	-40°C~+155°C	±100ppm
CUMN05 CUNI	0.5	2.5	50~150			
CUMN06 CUNI	0.6	3.0	50~100			
CUMN07 CUNI	0.7	4.0	20~70			
CUMN08 CUNI	0.8	4.5	10~50			
CUMN09 CUNI	0.9	5.0	10~40			
CUMN10 CUNI	1.0	5.5	8~30			
CUMN11 CUNI	1.1	6.0	8~20			
CUMN12 CUNI	1.2	7.0	5~20			
CUMN13 CUNI	1.3	7.5	5~20			
CUMN14 CUNI	1.4	8.0	5~20			
CUMN15 CUNI	1.5	9.0	5~20			
CUMN16 CUNI	1.6	9.5	2~20			
CUMN18 CUNI	1.8	11	2~10			
CUMN20 CUNI	2.0	12	2~10			
CUMN23 CUNI	2.3	14	2~5			
CUMN25 CUNI	2.5	16	2~5			
CUMN26 CUNI	2.6	18	1~5			
CUMN27 CUNI	2.7	19	1~5			
CUMN28 CUNI	2.8	20	1~5			
CUMN29 CUNI	2.9	21	1~5			
CUMN30 CUNI	3.0	22	1~5			

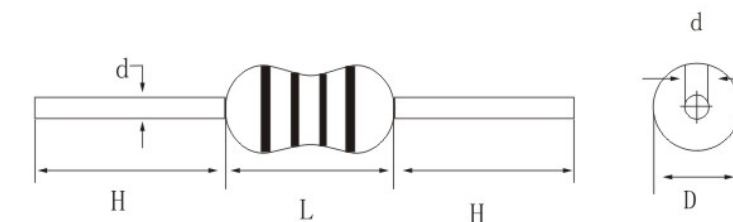
以上注册外之规格可依客户实际要求另行制作

(The specifications beyond above can be designed according to customer's practical requirement)



Forming Tape	Dimension(mm)							
	A±1	W±1	T±0.5	t-Min	L1-L2Max	P±0.5	Z-Max	L-Max
T26	38	26	6.0	2.0	1.0	5.0	1.0	1.0
T52	64	52	6.0	2.0	1.0	5.0	1.0	1.0
T63	75	63	6.2	2.0	1.0	5.0	1.0	1.0
T73	86	73	6.2	2.0	1.0	10.0	1.0	1.0

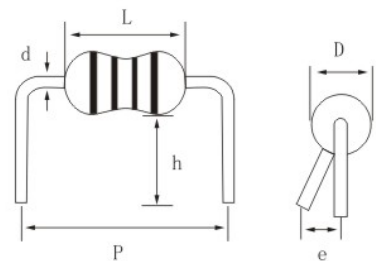
P Type



Type	Dimension(mm)				
	L(Max)	D(Max)	d±0.1	H±3	
1/6W(1/8W)	1/4WS	4.7	2.5	0.43	27
1/4W	1/2WS	7.2	3.5	0.52	27
1/2W	1WS	10.0	5.0	0.56	26
1W	2WS	12.5	6.0	0.73	30
2W	3WS	16.5	6.5	0.73	30

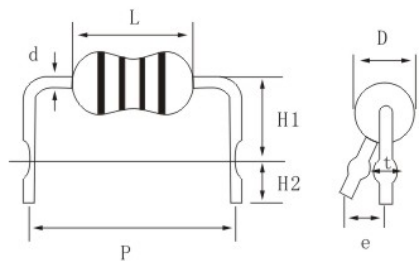
Forming & Color Code

H Type



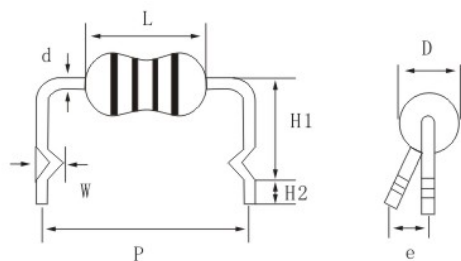
Type		Dimension(mm)					
		P±1.5	h±1	e(Max)	d±0.1	D(Max)	L(Max)
1/4W	1/2W	10.0	4.0	3.0	0.52	3.5	7.2
1/2W	1WS	12.5	4.0	3.0	0.56	5.0	10.0
1W	2WS	15.0	4.0	3.0	0.73	6.0	12.5
2W	3WS	20.0	4.0	3.0	0.73	6.5	16.5

HB Type



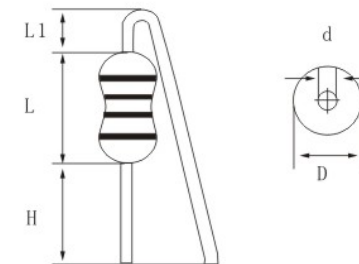
Type		Dimension(mm)						
		P±1	H1±1.5	H2±1.5	t(Min)	d±0.1	D(Max)	L(Max)
1W	2WS	15.0	10.0	5.0	1.2	0.73	6.0	12.5
2W	3WS	20.0	10.0	5.0	1.2	0.73	6.5	16.5

HK Type



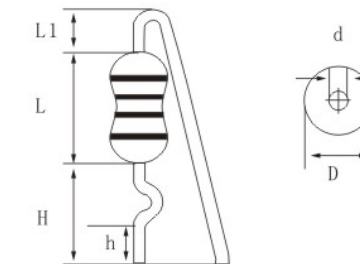
Type		Dimension(mm)						
		P±1.5	H1±1.5	H2±1	W(Min)	d±0.1	D(Max)	L(Max)
1W	2WS	15.0	11.0	4.0	1.0	0.73	6.0	12.5
2W	3WS	20.0	11.0	4.0	1.0	0.73	6.5	16.5

F Type



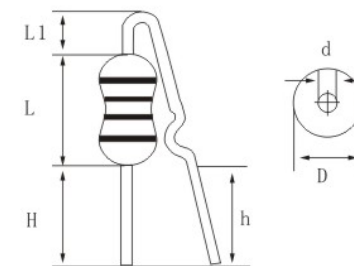
Type		Dimension(mm)				
		L(Max)	L1(Max)	D(Max)	d±0.1	H±1
1/6W	1/4WS	4.7	1.8	2.5	0.43	4.0
1/4W	1/2WS	7.2	3.0	3.5	0.52	4.0
1/2W	1WS	10.0	3.0	5.0	0.56	4.0
1W	2WS	12.5	3.5	6.0	0.73	4.0
2W	3WS	16.5	3.5	6.5	0.73	4.0

FK Type



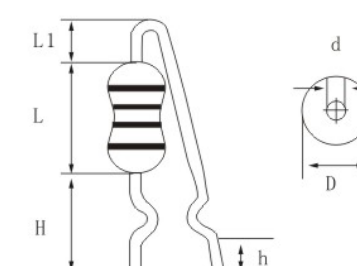
Type		Dimension(mm)					
		L(Max)	L1(Max)	D(Max)	d±0.1	H±2.0	h±1
1/6W	1/4WS	4.7	1.8	2.5	0.43	8.0	4.0
1/4W	1/2WS	7.2	3.0	3.5	0.52	8.0	4.0
1/2W	1WS	10.0	3.0	5.0	0.56	8.0	4.0
1W	2WS	12.5	3.5	6.0	0.73	8.0	4.0
2W	3WS	16.5	3.5	6.5	0.73	8.0	4.0

FFK Type



Type		Dimension(mm)					
		L(Max)	L1(Max)	D(Max)	d±0.1	H±1	h±1
1/6W	1/4WS	4.7	1.8	2.5	0.43	4.0	4.0
1/4W	1/2WS	7.2	3.0	3.5	0.52	4.0	4.0
1/2W	1WS	10.0	3.0	5.0	0.56	4.0	4.0
1W	2WS	12.5	3.5	6.0	0.73	4.0	4.0
2W	3WS	16.5	3.5	6.5	0.73	4.0	4.0

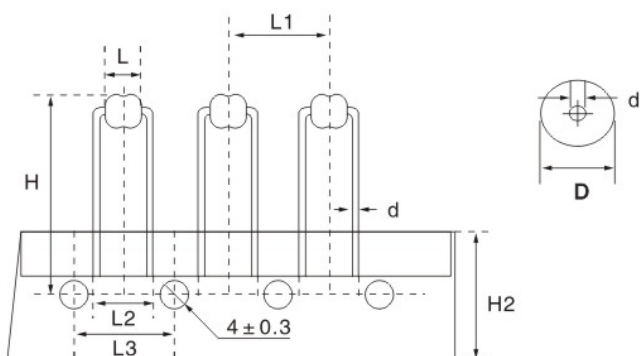
FKK Type



Type		Dimension					
		L(Max)	L1(Max)	D(Max)	d±0.1	H±2	h±1
1/2W	1WS	10.0	3.0	5.0	0.56	8.0	4.0
1W	2WS	12.5	3.5	6.0	0.73	8.0	4.0
2W	3WS	16.5	3.5	6.5	0.73	8.0	4.0

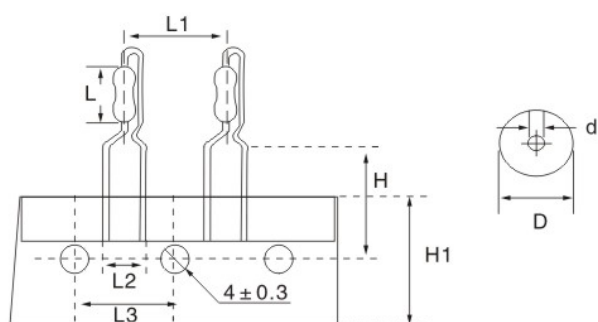
Forming & Color Code

PAMA Type



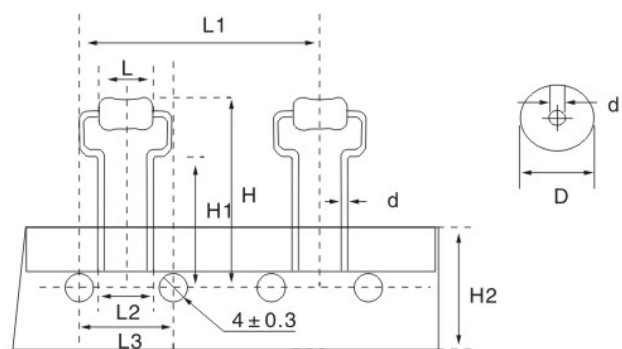
Type		Dimension							
		L(Max.)	L1±1.0	L2±1.0	L3(Max.)	H±2.0	D(Max.)	d±0.1	
1/6(8)W	1/4WS	4.7	12.7	5.5	15	25	2.5	0.52	

PANA Type



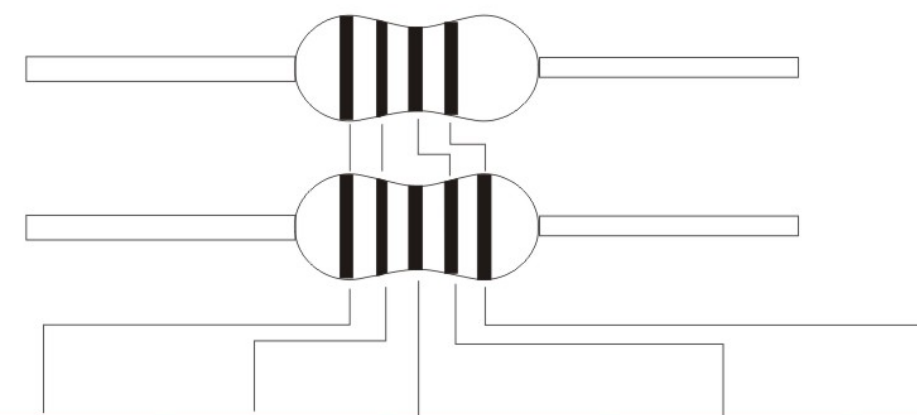
Type		Dimension							
		L(Max.)	L1±1.0	L2(Min.)	L3±1.0	H±1.0	H1±0.5	D(Max.)	d±0.1
1/4W	1/2WS	7.2	12.7	5.2	12.7	16.0	18.0	4.0	0.52
1/2W	1WS	10.0	12.7	5.2	12.7	16.0	18.0	5.0	0.56
1W	2WS	12.5	12.7	5.2	12.7	16.0	18.0	6.0	0.73

PAHA Type



Type		Dimension								
		L(Max.)	L1(Min.)	L2±1.0	L3(Max.)	H±1.0	H1±0.5	H2±0.5	D(Max.)	d±0.1
1/4W	1/2WS	7.2	19	5.5	12.0	25.0	16.0	18.0	4.0	0.52
1/2W	1WS	10.0	37.5	8.0	14.0	28.5	18.0	18.0	5.0	0.56
1W	2WS	12.5	37.5	8.0	17.0	28.5	18.0	18.0	6.0	0.73
2W	3WS	16.5	37.5	8.0	21.0	32.5	19.0	18.0	6.5	0.73

Color Coding Drawing



Color	1 st NO.	2 nd NO.	3 rd NO.	Multipliers	Tolerance
Black	0	0	0	10 ⁰	F(±1%)
Brown	1	1	1	10 ¹	G(±2%)
Red	2	2	2	10 ²	
Orange	3	3	3	10 ³	
Yellow	4	4	4	10 ⁴	D(±0.5%)
Green	5	5	5	10 ⁵	C(±0.25%)
Blue	6	6	6	10 ⁶	B(±0.1%)
Purple	7	7	7		
Gray	8	8	8		
White	9	9	9		J(±5%)
Gold				10 ⁻¹	K(±10%)
Silver				10 ⁻²	

Resistance Tolerance

Symbol	B	C	D	F	G	J	K
Resistance Tolerance	±0.1	±0.25	±0.5	±1	±2	±5	±10

(Halogen Free)
RoHs
Compliant

(Halogen Free)
RoHs
Compliant

Standard Resistance Values:

The below chart shows the nominal resistance value for each series.
The values in the chart have been in this order using the approximate values that are based on the common ratios given in the following table:

Series	Common Ratio	Remarks
E-6	$\sqrt[6]{10}$ (1.46)	Rounded off to a 2-digit figure.
E-12	$\sqrt[12]{10}$ (1.21)	
E-24	$\sqrt[24]{10}$ (1.10)	
E-96	$\sqrt[96]{10}$ (1.02)	Rounded off to a 3-digit figure.

E-6	E-12	E-24	E-96	
1.0	1.0	1.0	1.00	
			1.02	
			1.05	
			1.07	
			1.10	
			1.13	
			1.15	
	1.2	1.2	1.2	1.18
				1.21
				1.24
				1.27
				1.30
				1.33
				1.37
1.5	1.5	1.5	1.40	
			1.43	
			1.47	
			1.50	
			1.54	
			1.58	
			1.62	
1.8	1.6	1.6	1.65	
			1.69	
			1.74	
			1.78	
			1.82	
	1.8	1.8	1.8	1.87
				1.91
				1.96
				2.00
				2.05
2.10				

E-6	E-12	E-24	E-96	
2.2	2.2	2.2	2.15	
			2.21	
			2.26	
			2.32	
			2.37	
			2.43	
			2.49	
	2.7	2.7	2.7	2.55
				2.61
				2.67
				2.74
				2.80
				2.87
				2.94
3.3	3.0	3.0	3.01	
			3.09	
			3.16	
			3.24	
			3.32	
	3.3	3.3	3.3	3.40
				3.48
				3.57
				3.65
				3.74
4.7	3.9	3.9	3.83	
			3.92	
			4.02	
			4.12	
			4.22	
	4.3	4.3	4.3	4.32
				4.42
				4.53

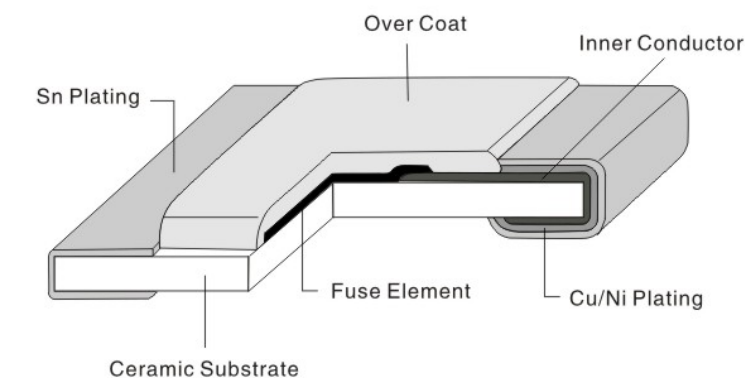
E-6	E-12	E-24	E-96	
4.7	4.7	4.7	4.64	
			4.75	
			4.87	
			4.99	
			5.11	
			5.23	
			5.36	
	5.6	5.6	5.6	5.49
				5.62
				5.76
				5.90
				6.04
				6.19
				6.34
6.8	6.2	6.2	6.49	
			6.65	
			6.81	
			6.98	
			7.15	
	6.8	6.8	6.8	7.32
				7.50
				7.68
				7.87
				8.06
9.1	7.5	7.5	8.25	
			8.45	
			8.66	
			8.87	
			9.09	
	8.2	8.2	8.2	9.31
				9.53
				9.76

CF/CFS Thin Film Chip Fuse

Features:

- Small and light weight design
- Thin film manufacturing method stabilizing fusing characteristics
- Low internal resistance
- Suitable for over current protection
- Recognized standard: UL248-14 file No.E241710

Construction:

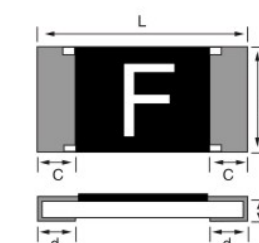


Type Designation

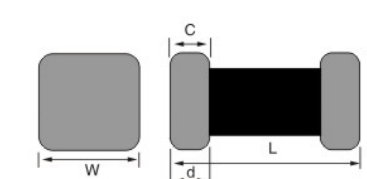
CF/CFS	06	V5	T	R50
Product Code	Size	Rated Voltage	Packaging	Rated Current
CF: Open within 1 min. at 200% rated current CFS: Open within 5 sec. at 250% rated current	04:1.0×0.52mm 06:1.6×0.80mm 12:3.1×1.55mm 24:6.1×2.6mm	VA:125V V6:63V V5:50V V3:32V	T:Paper Tape (5K)	R50:0.5A R80:0.8A 1R0:1.0A 1R25:1.25A 1R50:1.5A 2R0:2.0A 2R50:2.5A 3R0:3.0A 4R0:4.0A 5R0:5.0A 7R0:7.0A

Dimensions

For CF/CFS 04/06/12



For CF/CFS 24



Type (inch)	L	W	C	d	t
CF/CFS 04 (0402)	1.0±0.1	0.52±0.05	0.2±0.1	0.25±0.10	0.35±0.05
CF/CFS 06 (0603)	1.6±0.1	0.80±0.10	0.3±0.2	0.35±0.20	0.45±0.10
CF/CFS 12 (1206)	3.1±0.1	1.55±0.10	0.5±0.3	0.5±0.20	0.60±0.10
CF/CFS 24 (2410)	6.1±0.2	2.6±0.10	1.45±0.1	1.45±0.1	2.6±0.1