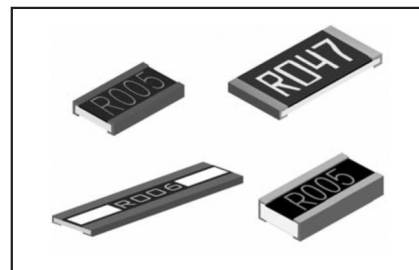


Current Sensing Chip Resistors

- 3W rating in 1W size, 1225 package
- Low TCR from $\pm 100 \sim \pm 600$ ppm/°C
- Resistance values from 1m to 1 Ω
- High purity alumina substrate for high power dissipation
- Long side terminations with higher power rating

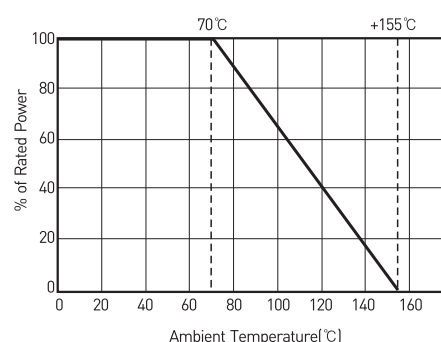


GENERAL SPECIFICATIONS

Model	Power Rating	Operating Temperature Range	Resistance Tolerance (%)	Resistance Range[Ω]	TCR[ppm/°C]	
CS01 (0201)	1/20W	-55℃ ~ +155℃	F [±1] G [±2] J [±5]	100m ~ 149m	±1000	
				150m ~ 500m	±600	
				501m ~ 1000m	±300	
CS02 (0402)	1/16W			50m ~ 100m	±400	
				101m ~ 500m	±300	
				501m ~ 1000m	±200	
CS03 (0603)	1/10W			20m ~ 50m	±600	
				51m ~ 100m	±400	
				101m ~ 500m	±300	
				501m ~ 1000m	±200	
CS05 (0805)	1/8W			20m ~ 50m	±600	
				51m ~ 100m	±400	
				101m ~ 500m	±300	
CS06 (1206)	1/4W			501m ~ 1000m	±200	
CS13 (1210)	1/2W			10m ~ 20m	±600	
CS10 (2010)	3/4W			21m ~ 50m	±400	
CS12 (2512)	1W			51m ~ 99m	±300	
				100m ~ 1000m	±200	
				3m ~ 5m	±300	
CS25 (1225)	3W			6m ~ 20m	±200	
				21m ~ 30m	±150	
				31m ~ 8000m	±100	
				10m ~ 19m	±300	
CS37 (3720)	1W			20m ~ 500m	±150	
				G [±2], J [±5]	1m ~ 4m	±300
CS75 (7520)	2W			F [±1], G [±2], J [±5]	5m ~ 10m	±200
					11m ~ 350m	±150

HIGH POWER RATING SPECIFICATIONS AND DERATING CURVE

Model	Power Rating	Resistance Range[Ω] $\pm 1\%$, $\pm 2\%$, $\pm 5\%$	TCR[ppm/°C]
CS02 (0402)	1/8W	51m ~ 100m	± 400
CS03 (0603)	1/8W, 1/5W	101m ~ 500m	± 300
CS05 (0805)	1/4W	501m ~ 1000m	± 200
CS06 (1206)	1/2W	10m ~ 20m 21m ~ 50m 51m ~ 99m 100m ~ 1000m	± 600
CS13 (1210)	3/4W		± 400
CS10 (2010)	1W		± 300
CS12 (2512)	1.5W		± 200
CS12 (2512)	2W		± 200



CHARACTERISTICS

Values in [] mean change in Ω after test

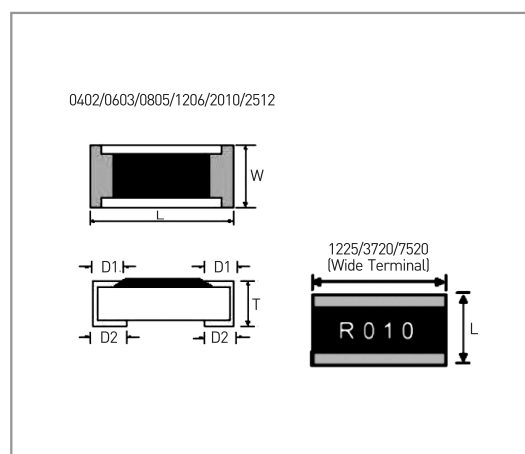
Temp. Coefficient of Resistance	As Spec.	-55°C~125°C, 25°C is the reference temperature
Short Time Overload	$\pm[1.0\%+0.05\Omega]$ for high power rating	RCWV*2.5 or maximum Overload Voltage, 5seconds
Dielectric Withstanding Voltage	No breakdown or flashover	1.42 times RCWV(RMS) for 1minute
Insulation Resistance	$\geq 10G\Omega$	Maximum Overload voltage for 1minute
Thermal Shock	$\pm[0.5\%+0.05\Omega]$	-55°C~155°C, 5cycles
Load Life	$\pm[1.0\%+0.05\Omega]$	RCWV, 70 \pm 2°C 1.5hours on, 0.5hours off for 1000~1048hours
Humidity(Steady State)	$\pm[0.5\%+0.05\Omega]$	40 \pm 2°C, 90~95%RH, RCWV 1.5hours on, 0.5hours off for 1000~1048hours
Resistance to Dry Heat	$\pm[0.5\%+0.05\Omega]$	at +155°C for 1000hours without load
Bending Strength	As Spec.	Bending once for 5seconds, 2010, 2512 size: 2mm, other size: 3mm
Solderability	95% coverage minimum	245 \pm 5°C, 3seconds
Resistance to Soldering Heat	$\pm[0.5\%+0.05\Omega]$	260 \pm 5°C, 10 \pm 1seconds

* Storage Temperature: 25 \pm 3°C; Humidity < 80% RH

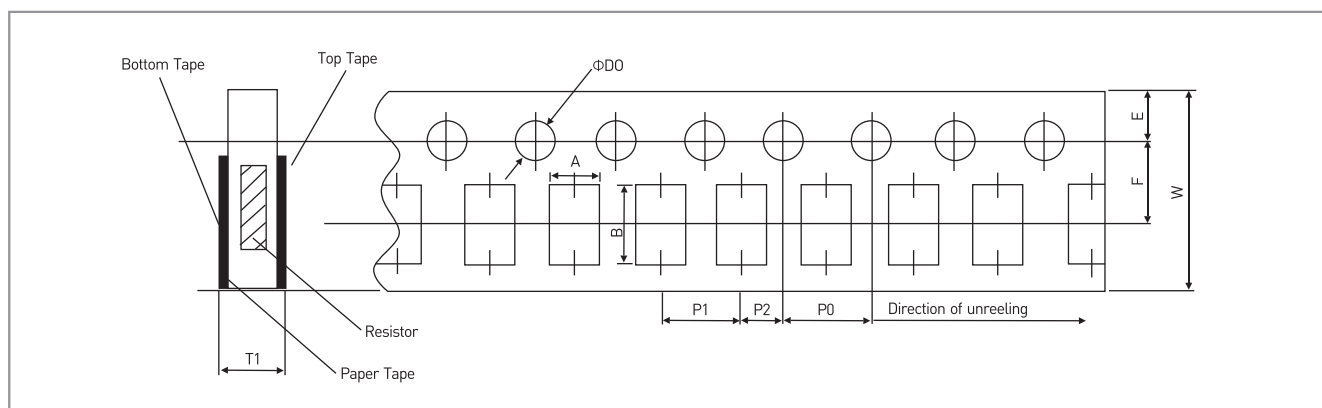
* Reference Standards: IEC60115-1, 60068-2-58, JIS-C 5201-1

DIMENSIONS [mm]

Model	Dimensions [mm]				
	L	W	T	D1	D2
CS01	0.60 \pm 0.03	0.30 \pm 0.03	0.23 \pm 0.05	0.12 \pm 0.05	0.15 \pm 0.05
CS02	1.00 \pm 0.05	0.50 \pm 0.05	0.32 \pm 0.10	0.25 \pm 0.10	0.20 \pm 0.10
CS03	1.60 \pm 0.10	0.80 \pm 0.10	0.45 \pm 0.10	0.30 \pm 0.20	0.30 \pm 0.20
CS05	2.00 \pm 1.15	1.25 \pm 0.15	0.55 \pm 0.10	0.30 \pm 0.20	0.40 \pm 0.25
CS06	3.10 \pm 0.15	1.55 \pm 0.15	0.55 \pm 0.10	0.50 \pm 0.30	0.40 \pm 0.25
CS13	3.10 \pm 0.10	2.60 \pm 0.15	0.55 \pm 0.10	0.50 \pm 0.30	0.50 \pm 0.25
CS10	5.00 \pm 0.20	2.50 \pm 0.15	0.60 \pm 0.15	0.60 \pm 0.30	0.50 \pm 0.25
CS12	6.35 \pm 0.20	3.10 \pm 0.15	0.60 \pm 0.10	0.60 \pm 0.30	0.55 \pm 0.25
CS25	3.10 \pm 0.15	6.30 \pm 0.15	0.90 \pm 0.15	0.60 \pm 0.30	0.80 \pm 0.25
CS37	2.00 \pm 0.20	3.75 \pm 0.20	0.60 \pm 0.10	0.40 \pm 0.20	0.40 \pm 0.20
CS75	2.00 \pm 0.20	7.50 \pm 0.30	0.60 \pm 0.10	0.40 \pm 0.20	0.40 \pm 0.20

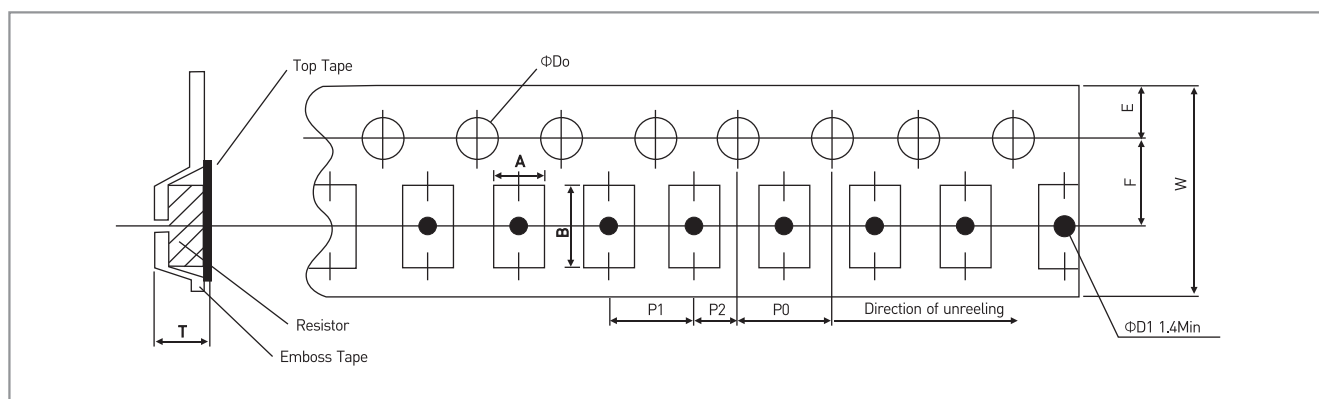


PAPER TAPE SPECIFICATIONS



Model	Dimensions [mm]									
	A	B	W	E	F	P0	P1	P2	ΦD0	T
CS01	0.38±0.05	0.68±0.05	8.00±0.2	1.75±0.1	3.5±0.05	4.00±0.1	2.00±0.05	2.00±0.05	1.50± ^{0.1} _{0.0}	0.42±0.2
CS02	0.65±0.1	1.15±0.1					0.45±0.1			
CS03	1.10±0.1	1.90±0.1					0.70±0.1			
CS05	1.60±0.1	2.40±0.2					0.85±0.1			
CS06	1.90±0.1	3.50±0.2								
CS13	2.90±0.1	3.50±0.2								

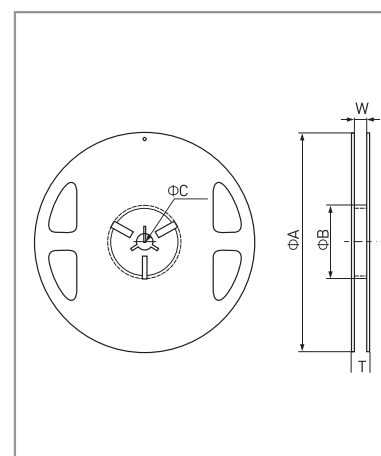
EMBOSS PLASTIC TAPE SPECIFICATIONS



Model	Dimensions [mm]									
	A	B	W	E	F	P0	P1	P2	ΦD0	T
CS10	2.80±0.10	5.50±0.10	12.0±0.10		5.5±0.05	4.0±0.05			1.50+0.10	1.00±0.20
CS12	3.40±0.10	6.70±0.10	12.0±0.10		5.5±0.05	4.0±0.05			1.50+0.10	1.00±0.20
CS25	3.38±0.10	6.68±0.10	12.0±0.30	1.75±0.10	5.5±0.10	4.0±0.10	4.0±0.10	2.0±0.05	1.55+0.05	1.45±0.20
CS37	2.50±0.20	4.45±0.20	12.0±0.30		5.5±0.05	4.0±0.05			1.50+0.10	1.20±0.20
CS75	2.50±0.20	8.30±0.20	16.0±0.30		7.8±0.05	4.0±0.05			1.50+0.10	1.20±0.20

REEL SPECIFICATIONS

Model	Dimensions [mm]					Paper Tape [pcs]	Emboss Plastic Tape [pcs]
	ΦA	ΦB	ΦC	W	T		
CS01	178±1	60.0±1.0	13.5±0.7	9.5±0.50	11.5±1.0	10,000	-
CS02	178±1	60.0±1.0	13.5±0.7	9.5±0.50	11.5±1.0	10,000	-
CS03	178±1	60.0±1.0	13.5±0.7	9.5±0.50	11.5±1.0	5,000	-
CS05	178±1	60.0±1.0	13.5±0.7	9.5±0.50	11.5±1.0	5,000	-
CS06	178±1	60.0±1.0	13.5±0.7	9.5±0.50	11.5±1.0	5,000	-
CS13	178±1	60.0±1.0	13.5±0.7	9.5±0.50	11.5±1.0	5,000	-
CS10	178±1	60.0±1.0	13.5±0.7	13.5±1.50	15.5±1.0	-	4,000
CS12	178±1	60.0±1.0	13.5±0.7	13.5±1.50	15.5±1.0	-	4,000
CS25	178±1	60.0±1.0	13.5±0.7	13.5±1.50	15.5±1.0	-	2,000
CS37	178±1	60.0±1.0	13.5±0.7	13.5±1.50	15.5±1.0	-	2,000
CS75	178±1	60.0±1.0	13.5±0.7	17.5±1.50	19.5±1.0	-	2,000



ORDERING PROCEDURE EXAMPLE

