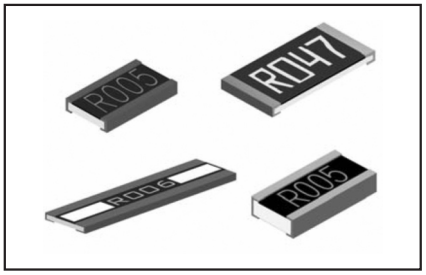
Current Sensing Chip Resistors

- 3W rating in 1W size, 1225 package
- Low TCR from ±100 ~ ±600 ppm/℃
- Resistance values from 1m to 1Ω
- High purity alumina substrate for high power dissipation
- Long side terminations with higher power rating

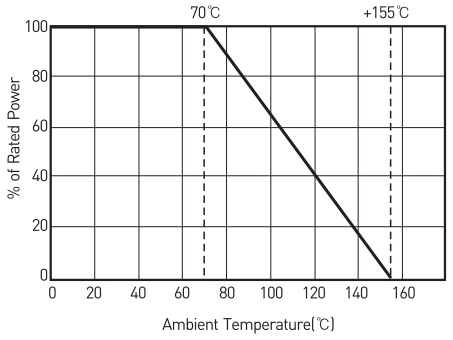


GENERAL SPECIFICATIONS

Model	Power Rating	Operating Temperature Range	Resistance Tolerance [%]	Resistance Range[Ω]	TCR[ppm/℃]
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
				501m ~ 1000m	±200
CS06 (1206)	1/4W			10m ~ 20m	±600
CS13 (1210)	1/2W			21m ~ 50m	±400
CS10 (2010)	3/4W			51m ~ 99m	±300
CS12 (2512)	1W			100m ~ 1000m	±200
CS25 (1225)	3W			3m ~ 5m	±300
				6m ~ 20m	±200
				21m ~ 30m	±150
				31m ~ 8000m	±100
CS37 (3720)	1W			10m ~ 19m	±300
				20m ~ 500m	±150
CS75 (7520)	2W		G [±2], J [±5]	1m ~ 4m	±300
			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] ±1%, ±2%, ±5%	TCR[ppm/℃]
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	±600
CS13 (1210)	3/4W	21m ~ 50m	±400
CS10 (2010)	1W	51m ~ 99m	±300
CS12 (2512)	1.5W	100m ~ 1000m	±200
CS12 (2512)	2W		



CHARACTERISTICS

Values in [ ] mean change in Ω after test

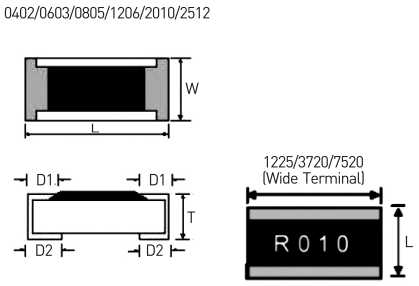
Temp. Coefficient of Resistance	As Spec.	-55℃~125℃, 25℃ is the reference temperature
Short Time Overload	±[1.0%+0.05Ω] for high power rating	RCWV*2.5 or maximum Overload Voltage, 5seconds
Dielectric Withstanding Voltage	No breakdown or flashover	1.42 times RCWV(RMS) for 1minute
Insulation Resistance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

* Storage Temperature: 25±3℃; Humidity < 80% RH

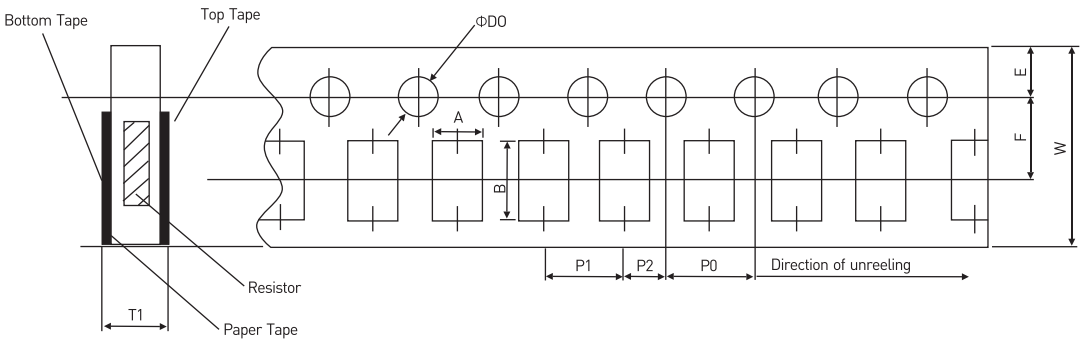
* Reference Standards: IEC60115-1, 60068-2-58, JIS-C 5201-1

DIMENSIONS [mm]

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



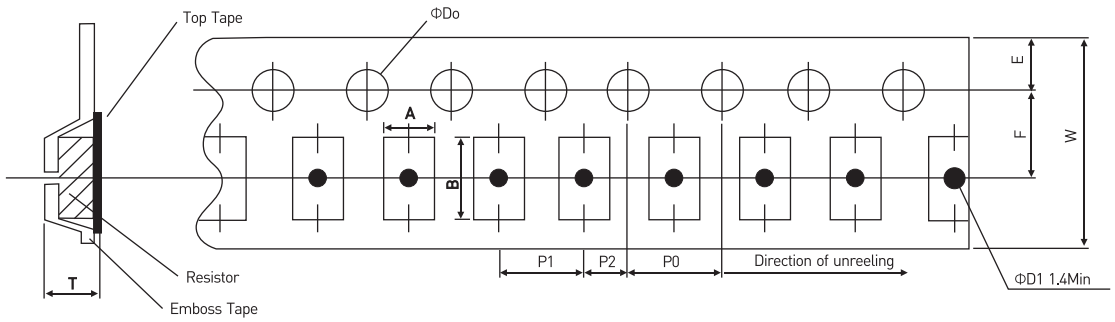
PAPER TAPE SPECIFICATIONS



Model	Dimensions [mm]									
	A	B	W	E	F	P0	P1	P2	ΦDO	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	$1.50\pm^{0.1}_{0.0}$	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					4.00±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								

Tel: 82-32-817-4325 Fax: 82-32-817-4329

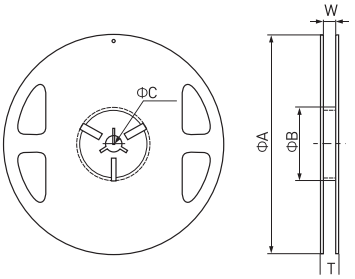
EMBOSS PLASTIC TAPE SPECIFICATIONS



Model	Dimensions [mm]									
	A	B	W	E	F	P0	P1	P2	ΦDO	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

CS 12 — Model #

F — Resistance Tolerance
J: ±5%
G: ±2%
F: ±1%

T — Packaging
T: Taping Reel
B: Bulk

G — TCR
E: ±100ppm/℃
K: ±150ppm/℃
F: ±200ppm/℃
G: ±300ppm/℃
H: ±400ppm/℃
J: ±600ppm/℃
R: ±1000ppm/℃

U — Power Rating
_: Standard
S: 2W
A: 1.5W
T: 1W
Q: 3/4W
U: 1/2W
V: 1/4W
P: 1/5W
W: 1/8W

R100Ω — Resistance
R010: 0.010Ω
R100: 0.100Ω
1R00: 1.000Ω

N — Marking
None: Standard
N: No Marking
W: Wide