



CHIP RESISTORS CR21, CR32

FEATURES

- Extremely thin and light
- Highly reliable multilayer electrode construction
- Compatible with both flow soldering and reflow soldering
- Highly stable in auto-placement surface mounting applications
- Barrier layer end termination
- Zero Ohm Jumper available
- Available in 8mm Tape and Reel per EIA RS481
- 1% Tolerance available on 100ppm/°C

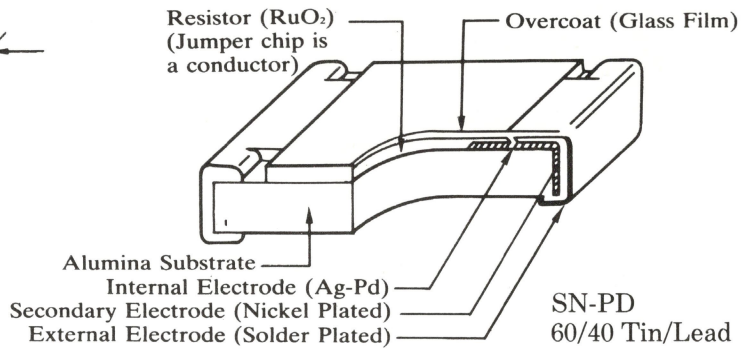
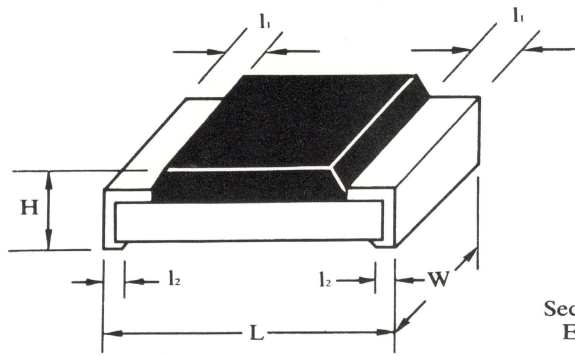
PERFORMANCE CHARACTERISTICS

ELECTRICAL	CR21 (0805)	CR32 (1206)
Power rating @70°C Temperature coefficient Derated to 0 load at	0.10 watt ±100, 200, 300ppm/°C 125°C	0.125 watt ±100, 200, 300ppm/°C 125°C
Maximum working voltage Maximum overload voltage Operating-temperature range	100V 200V -55°C to +125°C	200V 400V -55°C to +125°C
Resistance range (1% Tolerance) E96, 100ppm/°C (5% Tolerance) E24, 200ppm/°C, 300ppm/°C	10 ohm to 1 megohm 1 ohm to 3.3 megohm zero ohm Jumper <0.05 ohm	10 ohm to 1 megohm 1 ohm to 10 megohm zero ohm Jumper <0.05 ohm
* Special value on request		

ENVIRONMENTAL CHARACTERISTICS

PERFORMANCE TEST	TEST METHOD	GRADE REQUIREMENT		
		CR21 (0805)	CR32 (1206)	CR32 (1206)
Temperature Coefficient (by Type)	MIL-STD-202F, Method 304 -55°C to +125°C	±100ppm/°C (RC05/06A)	±200ppm/°C (RC05/06B)	±300ppm/°C (RC05/06C)
Thermal Shock	MIL-STD-202F, Method 107 5 cycles. -55° to +125°C	±(0.5%, +0.05Ω)	±(1.0%, +0.05Ω)	±(1.0%, +0.05Ω)
Low Temperature Operation	MIL-R-55342C, Para. 4.7.4 One hour at -55°C followed by 45 minutes RCWV	±(0.5%, +0.05Ω)	±(0.5%, +0.05Ω)	±(1.0%, +0.05Ω)
Short Time Overload	MIL-R-55342C, Para. 4.7.5 2.5 times RCWV for 5 seconds.	±(1.0%, +0.05Ω)	±(2.0%, +0.05Ω)	±(2.0% +0.05Ω)
High Temperature Exposure	MIL-R-55342C, Para. 4.7.6 125°C for 100 hours	±(1.0%, +0.05Ω)	±(2.0%, +0.1Ω)	±(2.0%, +0.1)
Resistance to Soldering Heat	MIL-R-55342C, Para. 4.7.7 Soldered to test board at 260°C for 10 seconds	±(0.5%, +0.05Ω)	±(1.0%, +0.05Ω)	±(1.0%, +0.05Ω)
Moisture Resistance	MIL-STD-202F, Method 106 10 cycles. Total 240 hours	±(0.5%, +0.05Ω)	±(2.0%, +0.05Ω)	±(2.0%, +0.1Ω)
Life	MIL-STD-202F, Method 108A 1000 hours at 70°C. RCWV intermittent	±(1.0%, +0.05Ω)	±(2.0%, +0.1Ω)	±(3.0%, +0.1Ω)
Solderability	MIL-STD-202F, Method 208 230°C for 5 seconds	95% min. coverage	95% min. coverage	95% min. coverage
Bending Strength	Unit mounted in center of 90mm board length, deflected 5 mm in either direction for 10 seconds	±(1.0%, +0.05Ω)	±(1.0%, +0.05Ω)	±(1.0%, +0.05Ω)

CHIP DIMENSIONS

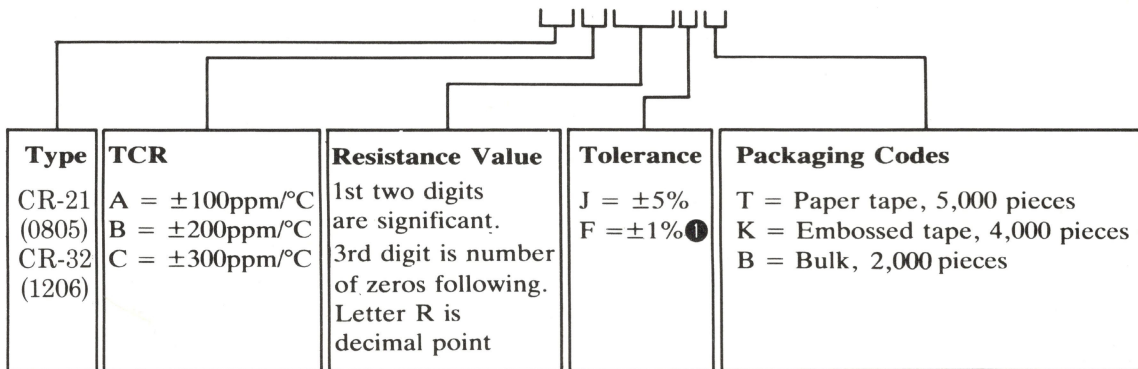


SN-PD
60/40 Tin/Lead

Type	L	W	H	l ₁	l ₂
CR21 (0805)	0.079±0.006 (2.0±0.15)	0.049±0.006 (1.25±0.15)	0.020±0.004 (0.5±0.1)	0.016±0.008 (0.4±0.2)	0.012±0.004 (0.3±0.1)
CR32 (1206)	0.125±0.006 (3.2±0.15)	0.063±0.006 (1.60±0.15)	0.024±0.004 (0.6±0.1)	0.020±0.008 (0.5±0.2)	0.016±0.004 (0.4±0.1)

PARTS NUMBER

CR21A1 0 3FK



❶ 1% Type ±100ppm/°C only

MARKING DIAGRAMS



CR32 (1206)
5% marking



CR32 (1206)
1% marking



CR21 (0805)
5% marking



CR21 (0805)
1% marking
Consult Factory

Marking - Standard marking is no marking on the chip itself. Marked chips are available. All other required marking is on the unit package.

Marking explanation - 5% tolerance: 3 digit, first two digits are significant, third digit is number of zeros. Letter R is decimal point.
1% tolerance: Four digit, first three digits are significant,

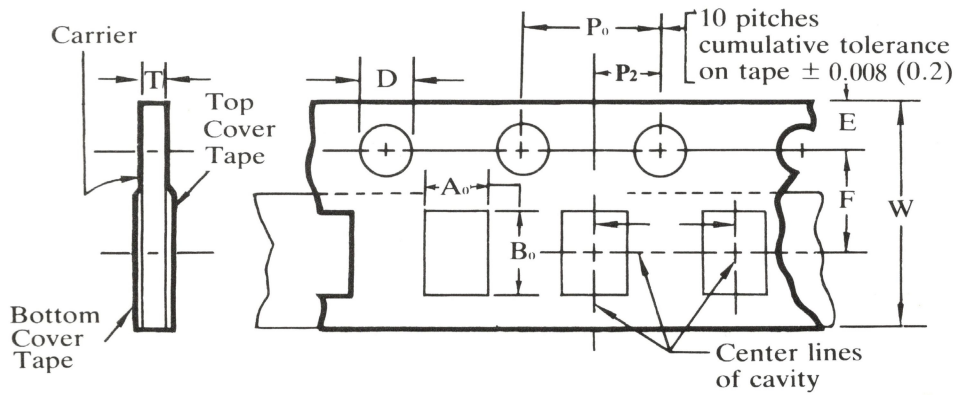
fourth digit is number of zeros. Letter R is decimal point.

Packaging - Standard packaging is 8mm tape reel per EIA481. 7 inches reel quantities are—Paper tape: 5,000 per reel. Embossed tape: 4,000 per reel.
Bulk: 2,000 per plastic bag, 5 bags per box.

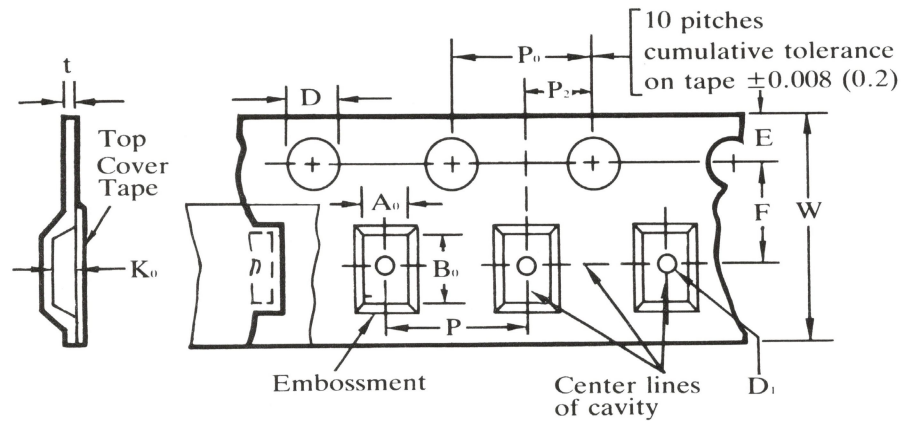
TAPE DIMENSIONS



Punched Paper Carrier



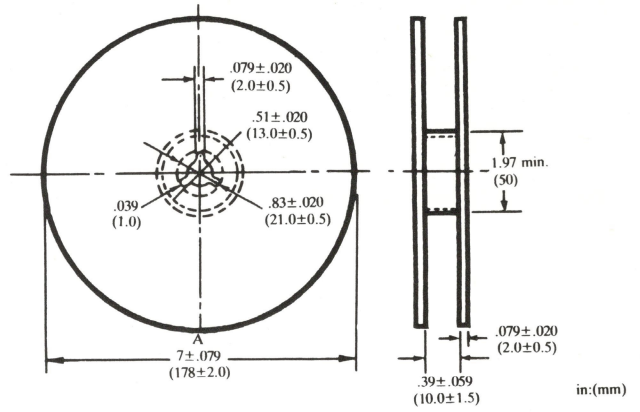
Embossed Plastic Carrier



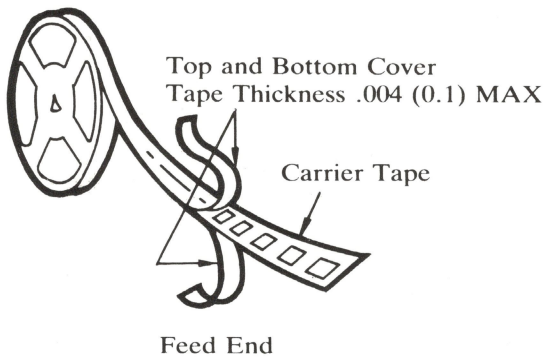
Dimension	W	F	E	P.P.	P ₂	D	D ₁ MIN	A ₀	B ₀	K ₀	T	t MIN
CR21 (0805)	.315±0.12 (8.0±.3)	.138±0.02 (3.5±0.5)	.069±0.04 (1.75±.05)	.157±.004 (4.0±.10)	.079±0.02 (2.0±.05)	.59 ^{+0.004} _{-0.0} (1.5 ^{+.10} ₋₀)	.04 (1.0)	.057-.063 (1.45-1.60)	.090-.096 (2.30-2.45)	.028-.033 (.70-.85)	.028-.033 (.70-.85)	.016 (.40)
CR32 (1206)	.315±0.12	.138±0.02	.069±0.04	.157±.004	.079±0.02	.59 ^{+0.004} _{-0.0}	.04	.070-.077	.134-.140	.031-.037	.031-.037	.016

REEL DIMENSIONS

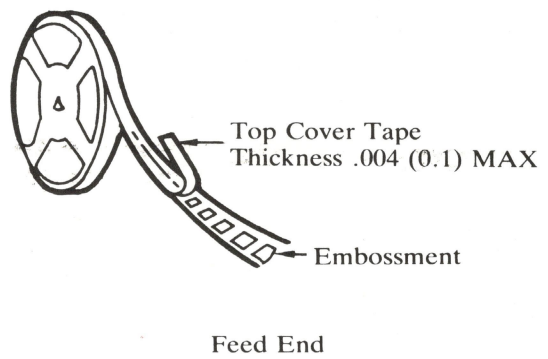
"A" Maximum	Component/Reel	
	Paper	Embossed (Plastic)
7" (178mm)	5,000	4,000



Punched Paper Carrier



Embossed Plastic Carrier



REP/DISTRIBUTED BY:

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