



0805 Precision Thin Film Resistor CSP (Chip Scale Package)

Features

- Standard 0805 Format
- SMD chips
- Absolute tolerance of 0.1%
- Temperature Coefficient (TCR) of 25ppm/°C

Applications

- Voltage dividers
- Current sensing
- Current limiting
- Precision gain setting

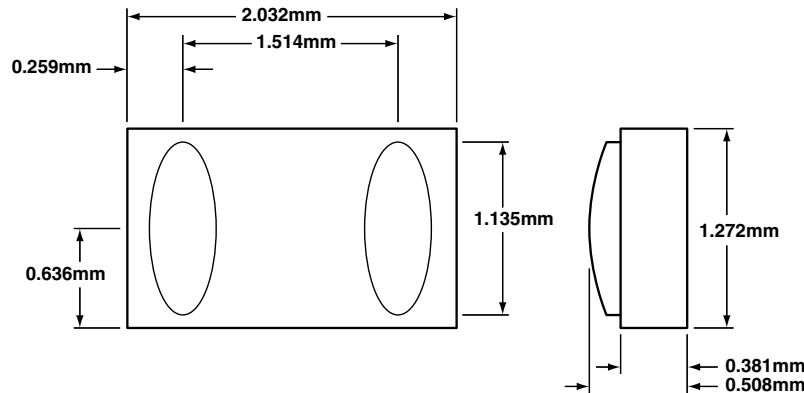
Product Description

California Micro Devices' resistors offer a high degree of stability and low noise as well as the proven reliability characteristics of Tantalum Nitride. FERN303 series offers these advantages in a CSP (Chip Scale Package). FERN303 devices are built on ceramic with solder bumps for direct placement onto printed circuit boards. They are compatible with 0805 footprint.

SCHEMATIC CONFIGURATION



Package Diagram



ORDERING INFORMATION

Part Series	Resistive Value (XXXX)	Tolerance	TCR
FERN303	1003	J	A
	First 3 digits are significant value (R indicates decimal point). Fourth digit represents number of zeros to follow. (e.g. 100K = 1003)	J = ±5% G = ±2% F = ±1% D = ±0.5% B = 0.1%	No Letter = ±100ppm A = ±50ppm B = ±25ppm



RESISTANCE RANGE	
40K Ω to 150K Ω	

ELECTRICAL SPECIFICATIONS			
Parameter	Test Condition		
TCR	-55°C to +125°C	± 25 ppm/°C	Max
Operating Voltage	-55°C to +125°C	100Vdc	Max
Power Rating	@ 70°C	200mW	Max
Absolute Tolerance	+25°C	$\pm 0.1\%$	Max
Operating Temperature Range		-55°C to +125°C	
Storage Temperature		-65°C to +150°C	

CSP SPECIFICATIONS		
Final Die Size	2.032 x 1.272mm (± 0.125 mm)	80 x 50 mil (± 5 mil)
Die Thickness (Die & Bump)	0.500mm (± 0.075 mm)	20 mil (± 3 mil)
Pad Size	0.381 x 1.135mm	15 x 44.6 mil
Pad Pitch	1.514mm nominal	59.6 mil nominal
Bump Height	0.125mm (± 0.025 mm)	5 mil (± 1 mil)
Die Substrate	Ceramic	Ceramic

PRINTED CIRCUIT BOARD RECOMMENDATIONS	
Pad Size on PCB	0.300mm
Pad Shape	Round
Pad Definition	Non Solder Mask Defined Pads (NSMD)
Solder Mask Opening	0.350mm
Solder Stencil Thickness	0.152mm
Solder Stencil Aperture Opening	0.360mm (sq.)
Solder Flux Ratio	50/50
Solder Paste	No Clean
Bond Trace Finish	OSP (Entek Cu Plus 106A)