# **SOT23 Thin Film Precision Voltage Divider Network**

#### **Features**

- Wide resistance range (10 to  $1M\Omega$ )
- Tolerance ±0.1%, ratios ±0.05%
- Low temperature coefficient ±25ppm/°C
- Low tracking temperature coefficient of resistance ±5ppm/°C
- Long term stability, 0.05% after 1000 hours
- Also available in custom values and configuration

## **Applications**

- · Precision voltage dividers
- · OP AMP gain control
- Attenuation
- Pull-up/pull-down
- TTL/MOS interfacing

## **Product Description**

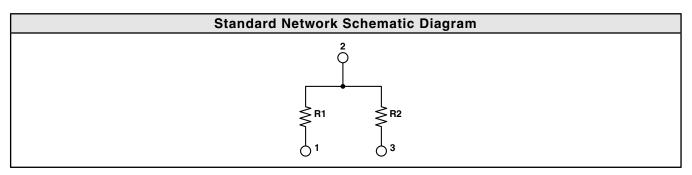
California Micro Devices' PRN105 precision voltage divider resistor array offers a high degree of stability, low noise and the proven reliability characteristics of Tantalum Nitride. These devices are manufactured using advanced Thin Film Technology. A wide range of resistor values is available, as well as various tolerances and TCRs

Electrical					
Standard Resistance Range (R1 + R2)	10 to 1MΩ				
Operating Temperature Range	-55°C to 150°C				
VCR	5ppm/V				
Maximum Power Rating for Each Resistor	125mW				
Minimum Insulation Resistance	100ΜΩ				
Noise, MAX (MIL-STD-202, Method 308)	-25dB				
Minimum Operating Voltage	100V or√P x R				

Mechanical			
Lead Plating	Tin-Lead		
Lead Material	Copper Alloy		
Lead Coplanarity	0.004" (0.102mm)		
Substrate Material	Silicon		
Resistor Material	Tantalum Nitride		
Body Material	Molded Epoxy		
Flammability	UL94V-0		

Tolerances			
Absolute Resistance @ 25°C, %	±0.1, ±0.2, ±0.5, ±1, ±2, ±5		
Ratio, %	±0.05, ±0.1, ±0.2, ±0.5, ±1		
Temperature Coefficient of Resistance, ppm/°C	±25, ±50, ±100,		
Typical Tracking (TCR), ppm/°C	±5, ±10		

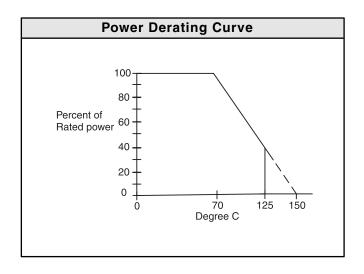
Power Dissipation
0.25W @ 70°C



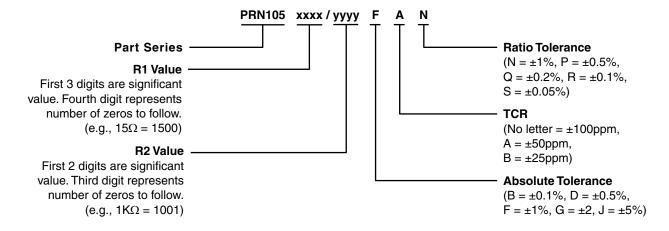
© 2000 California Micro Devices Corp. All rights reserved.

C1621200

Performance Data (DELTA R%)					
Test per MIL-R-83401	CHAR H LIMITS	MAX	TYP		
Thermal Shock	0.25	0.1	0.02		
Power Conditioning	0.5	0.1	0.03		
Low Temperature Operating	0.1	0.1	0.03		
Short Time Overload	0.1	0.1	0.02		
Terminal Strength	0.25	0.1	0.02		
Resistance to Soldering Heat	0.1	0.1	0.02		
Moisture Resistance	0.4	0.1	0.03		
Shock	0.25	0.1	0.02		
Vibration	0.25	0.1	0.02		
Life	0.5	0.1	0.05		
High Temperature Exposure	0.2	0.1	0.05		
Low Temperature Storage	0.1	0.05	0.03		
25°C Power Rating	0.5	0.1	0.05		



## **Part Numbering Key**



Standard Part Ordering Information					
Part Type	Package Ordering Part Number				
	Pin	Style	Tape & Reel	Part Marking	
PRN105	3	SOT23	PRN105 xxxx/yyyy F A N/R*	TBD	

<sup>\*</sup>Please refer to the Part Numbering Key.