calogic
CORPORATION

CA5010

PRELIMINARY DATA

1.2V Band-Gap Reference

FEATURES

- 50 ppm/°C Temperature Coefficient
- 25μA to 10mA Operating Current Range
- 1 Dynamic Impedance
- Low Cost TO-92 Plastic Package,
- 1% Output Tolerance

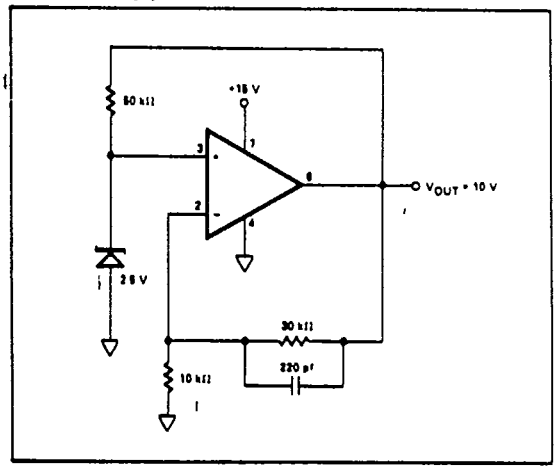
APPLICATIONS

- ADC and DAC Reference
- Current Source Generation
- Threshold Detectors
- Power Supplies
- Multimeters

DESCRIPTION

The CA5010 1.2 V Output bipolar two terminal band-gap voltage references offers precision performance without a premium price. A 50ppm/°C output temperature coefficient and 25μA to 5mA operating current range make the device attractive multimeter, data acquisition converter, and telecommunication voltage reference.

Typical Application



ABSOLUTE MAXIMUM RATINGS

Maximum Temperature:

Storage Temperature, JT-KT-LT-MT-NT –65°C +200°C
Storage Temperature, GN-HN-LN .... –65°C to +150°C
Operating Range, JT-KT-LT ..... –55°C to +125°C
Operating Range, GN-HN-LN-MT-NT .... 0° to +70 °C
Lead Temperature (soldering, 10 sec.) ..... +260°C

Maximum Power Dissipation:

Power Dissipation (free air), JT-KT-LT-MT-NT 750mW
Power Dissipation (free air), GN-HN-LN 600mW
Linear Derating Factor, JT-KT-LT-MT-NT .. 4.3mW/°C
Linear Derating Factor, GN-HN-LN ..... 5 mW/°C

Maximum Current:

Forward Current 10mA
Reverse Current 10mA
Packaging ..... TO-92 and TO -52

ORDER INFORMATION

MAX. TEMPCO ppm/°C	TEMP. RANGE	ORDER PART
100	COM	CA5010GN
50	COM	CA5010HN
25	COM	CA5010LN
10	COM	CA5010MT
5	COM	CA5010NT
100	MIL	CA5010JT
50	MIL	CA5010KT
25	MIL	CA5010LT

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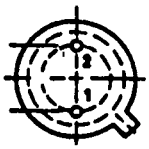
ELECTRICAL CHARACTERISTICS

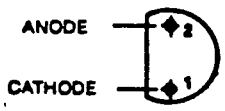
CHARACTERISTICS	MIN	TYP	MAX	UNITS	CONDITIONS
Reference Current	50	100	5000	μA	
Reference Voltage	1.20	1.237	1.25	V	I_R = 100 μA
Output Impedance		.6			I_R = 100 μA
		.6	2		I_R = 500 μA
RMS Noise Voltage		5		V	10Hz ≤ f ≤ 10k Hz
					I_R = 500 μA
Breakdown Voltage					
Temperature coefficient					
MP5010 G-J		30	100	ppm/°C	
MP5010 H-K		25	50	ppm/°C	50μA ≤ I_R ≤ 5mA
MP5010 L	10	25		ppm/°C	T min ≤ T_A ≤ T max
MP5010 M	5	10		ppm/°C	
MP5010 N		3	5	ppm/°C	
Reverse Current	50		1000	μA	To Rated Specs

NOTES:
Optimum performance is obtained at currents below 500 μA.
Stray shunt capacitances should be minimized.
If strays cannot be avoided, a shunt capacitor of at least 1000 pF is recommended.

PIN CONNECTIONS (bottom view)



TO-52
(T-SUFFIX)



TO-92
(N-SUFFIX)
PLASTIC