



T-58-07
CA5010

PRELIMINARY DATA

1.2V Band-Gap Reference

FEATURES

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

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 25 μ A to 5mA operating current range make the device attractive multimeter, data acquisition converter, and telecommunication voltage reference.

ABSOLUTE MAXIMUM RATINGS

Maximum Temperature:

Storage Temperature, JT-KT-LT-MT-NT -65°C to +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

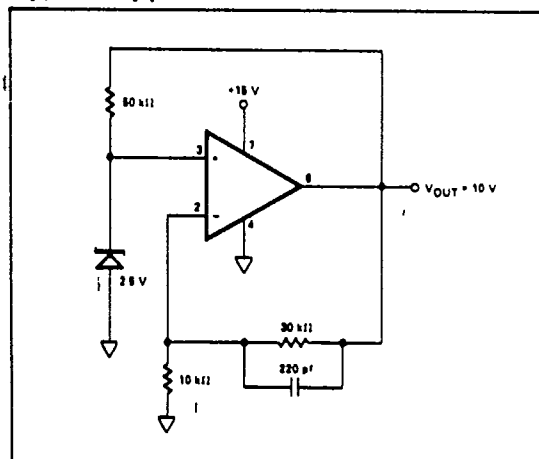
Maximum Current:

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

APPLICATIONS

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

Typical Application



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

CA5010**ELECTRICAL CHARACTERISTICS**

CHARACTERISTICS	MIN	TYP	MAX	UNITS	CONDITIONS
Reference Current	50	100	5000	μA	
Reference Voltage	1.20	1.237	1.25	V	$I_R = 100 \mu A$
Output Impedance		.6			$I_R = 100 \mu A$
		.6	2		$I_R = 500 \mu A$
RMS Noise Voltage		5		V	$10 \text{ Hz} \leq f \leq 10 \text{ kHz}$ $I_R = 500 \mu A$
Breakdown Voltage					
Temperature coefficient					
MP5010 G-J		30	100	ppm/ $^{\circ}C$	
MP5010 H-K		25	50	ppm/ $^{\circ}C$	$50 \mu A \leq I_R \leq 5 \text{ mA}$
MP5010 L	10	25		ppm/ $^{\circ}C$	$T_{\min} \leq T_A \leq T_{\max}$
MP5010 M	5	10		ppm/ $^{\circ}C$	
MP5010 N		3	5	ppm/ $^{\circ}C$	
Reverse Current	50		1000	μA	To Rated Specs

NOTES:

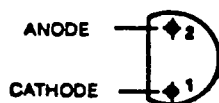
Optimum performance is obtained at currents below $500 \mu A$.

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

