

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

**ABSOLUTE MAXIMUM RATINGS**

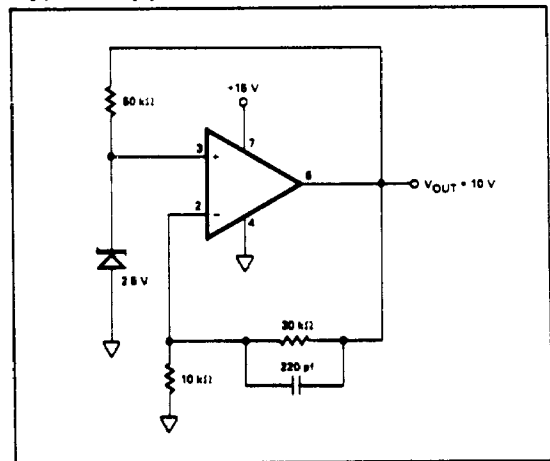
**Maximum Temperature:**

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

**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

## ELECTRICAL CHARACTERISTICS

CHARACTERISTICS	MIN	TYP	MAX	UNITS	CONDITIONS
Reference Current	50	100	5000	$\mu A$	
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	$10 \text{ Hz} \leq f \leq 10 \text{ k Hz}$ $I_R = 500 \mu A$
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/ $^{\circ}C$	$T_{\text{min}} \leq T_A \leq T_{\text{max}}$
MP5010 M	5	10		ppm/ $^{\circ}C$	
MP5010 N		3	5	ppm/ $^{\circ}C$	
Reverse Current	50		1000	$\mu A$	To Rated Specs

### NOTES:

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

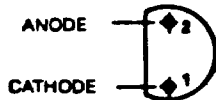
Stray shunt capacitances should be minimized.

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

