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# ZN458

## 2.45V PRECISION REFERENCE REGULATOR

The ZN458 is a monolithic integrated circuit providing a precise stable reference source of 2.45V in a two lead package without the need for an external shaping capacitor.

### FEATURES

- Guaranteed 5mV Maximum Deviation over Full Temperature Range
- Low Temperature Coefficient 0.003%/°C
- Low Slope Resistance - 0.1 Ohms
- Very Good Long Term Stability - 10ppm
- Low Noise - 10 microvolts
- Internally Shaped
- Tight Tolerance  $\pm 1.43\%$
- Two Pin Package
- Wide Operating Current 2-120mA

### ABSOLUTE MAXIMUM RATINGS

Dissipation	300mW
Operating temperature range	-20°C to +70°C
Storage temperature range	-55°C to +150°C

### ORDERING INFORMATION

Device	TC (ppm/°C)	Temperature range
ZN458	99	-20°C to +70°C
ZN458A	49	-20°C to +70°C
ZN458B	29	-20°C to +70°C

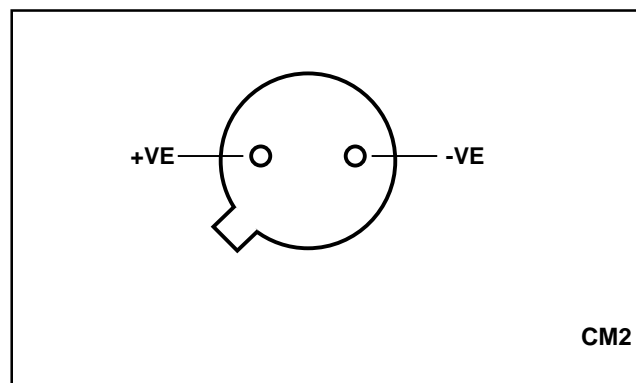


Fig.1 Pin connection - bottom view

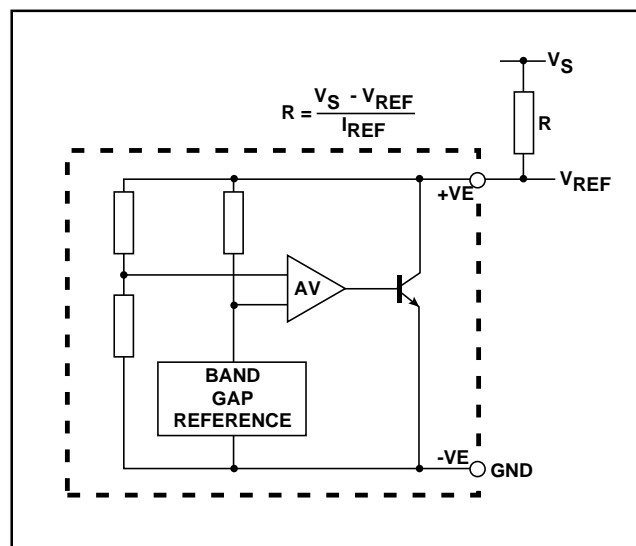


Fig.2 Circuit diagram

ZN458

ELECTRICAL CHARACTERISTICS (at  $T_{amb} = 25^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Units	Test conditions
Output voltage	$V_{REF}$	2.42	2.45	2.49	V	Measured at 2mA
Slope resistance	$R_{REF}$	-	0.1	0.2	$\Omega$	
Reference current	$I_{REF}$	2.0	-	120	mA	
Maximum change in $V_{REF}$	$\Delta V_{REF}$	-	10	22	mV	-20 to +70°C
ZN458		-	6	11	mV	
ZN458A		-	4	6.5	mV	
ZN458B		-				
RMS noise voltage 1Hz-10kHz		-	10	-	$\mu\text{V}$	
$V_{REF}$ drift at 70°C		-	$\pm 10$	-	ppm/1000 hours	

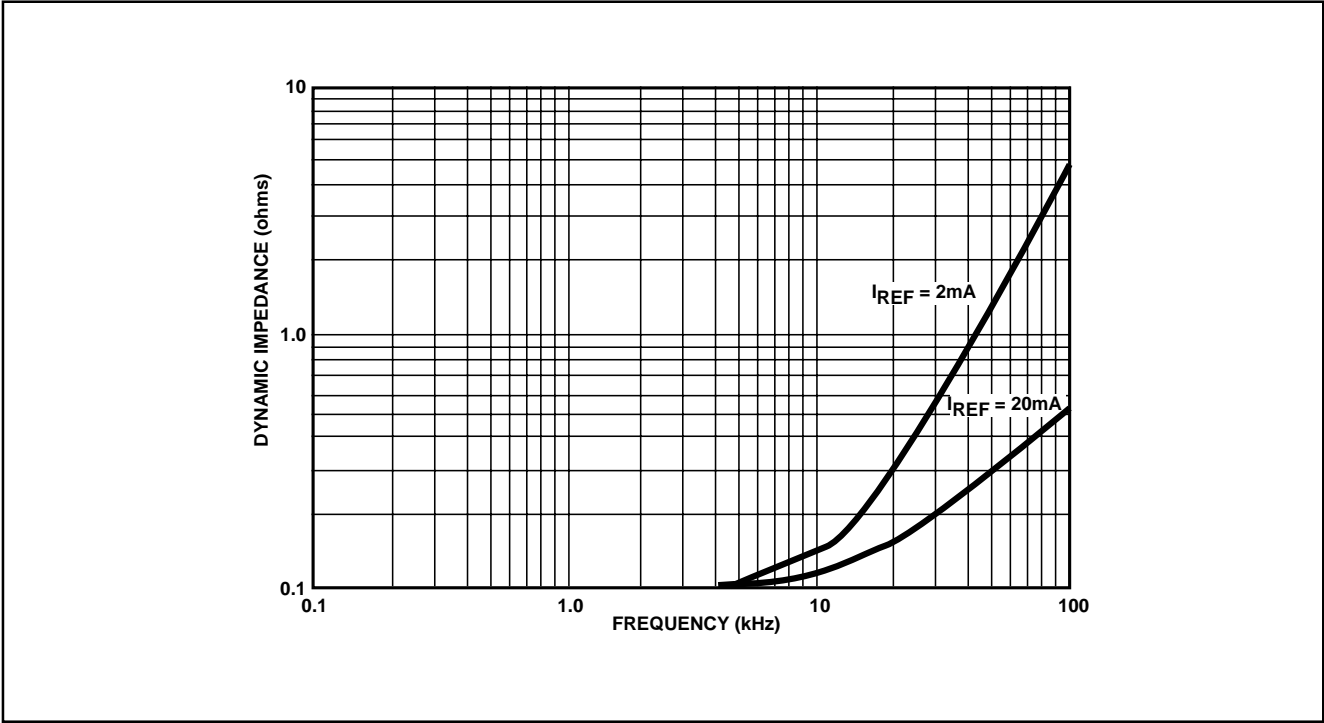


Fig.3 Dynamic impedance

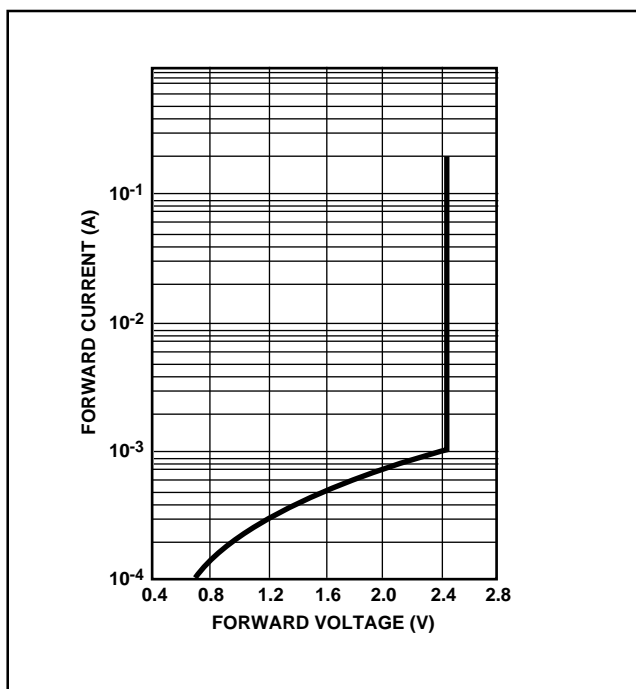


Fig.4 Forward characteristic

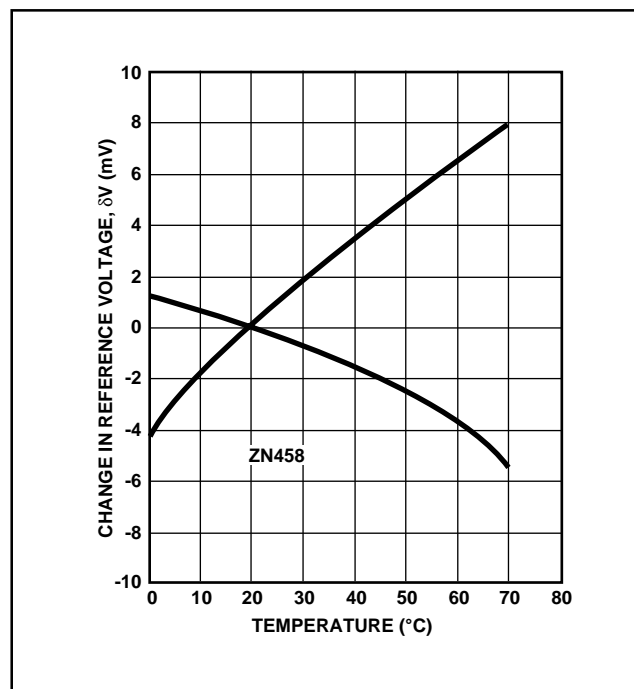


Fig.5 Temperature characteristic (typical)

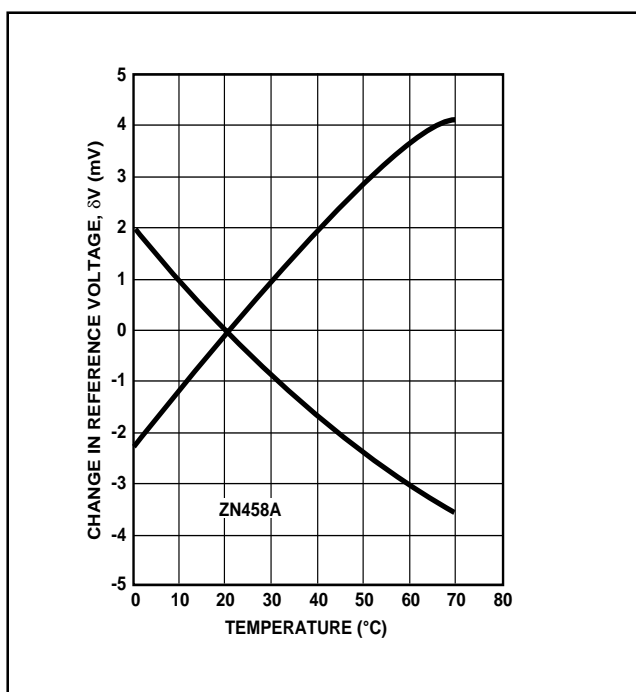


Fig.6 Temperature characteristic (typical)

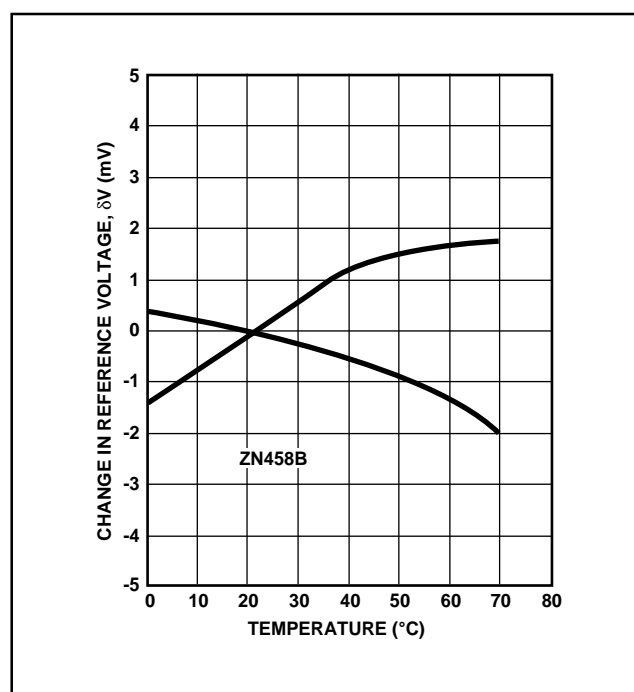


Fig.7 Temperature characteristic (typical)

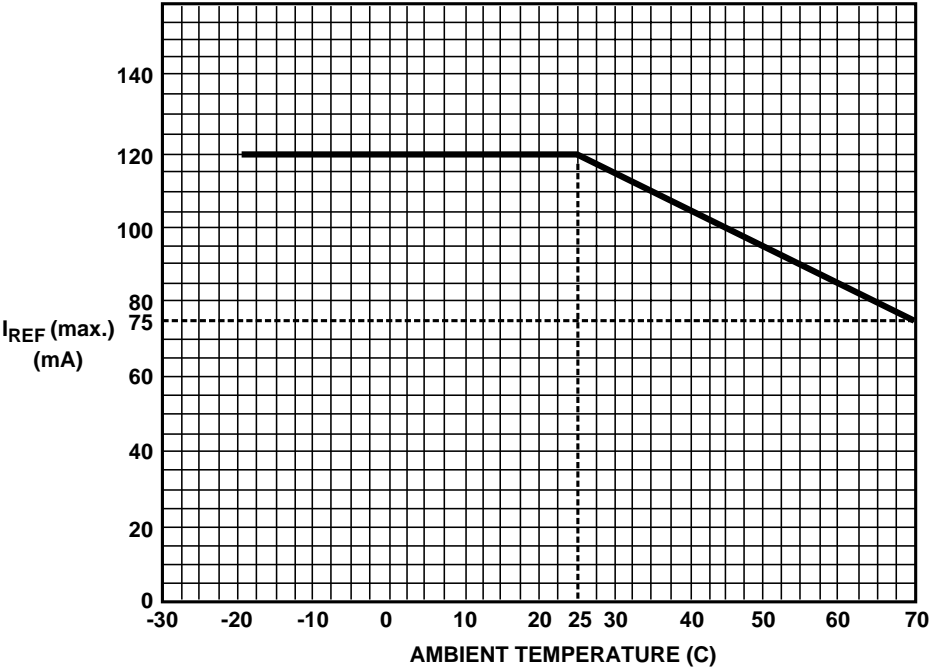


Fig.8 Derating curve





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