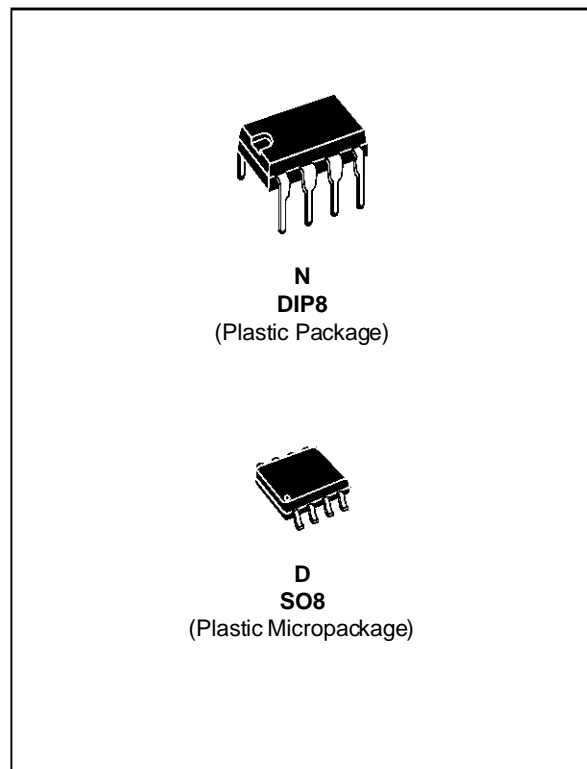


**2.5V PRECISION SERIALVOLTAGE REFERENCE**

- OUTPUT VOLTAGE : 2.5V ±1%
- INPUT VOLTAGE RANGE : 4.5V to 40V
- QUIESCENT CURRENT : 1.2mA typ.
- OUTPUT CURRENT : 10mA



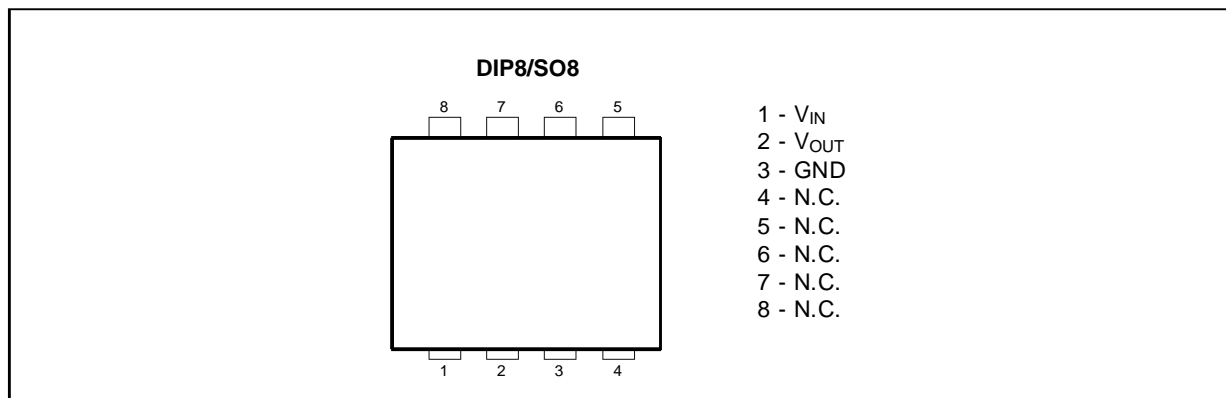
**DESCRIPTION**

The MC1403 is a serial 2.5V bandgap voltage reference. The major advantages are the 1% precision, the wide input voltage range (4.5V to 40V) and the low quiescent current (1.5mA max.)

**ORDER CODES**

Part number	Temperature Range	Package	
		N	D
MC1403	0°C, +70°C	•	•

**PIN CONNECTIONS** (top views)



**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
V <sub>IN</sub>	Input Voltage	40	V
T <sub>oper</sub>	Operating Free-air Temperature Range	0 to +70	°C
T <sub>stg</sub>	Storage Temperature Range	-65 to +150	°C

**OPERATING CONDITIONS**

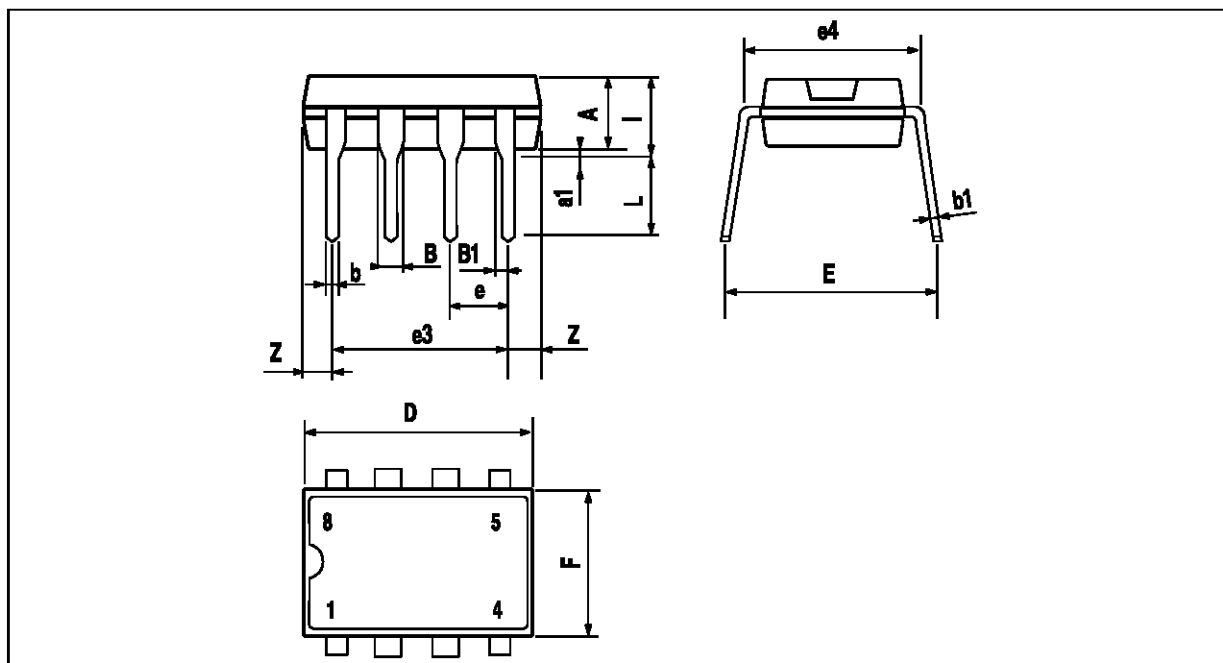
Symbol	Parameter	Value	Unit
V <sub>IN</sub>	Input Voltage (I <sub>o</sub> = 0mA)	4.5 to 40	V

**ELECTRICAL CHARACTERISTICS**

T<sub>amb</sub> = 25°C, V<sub>IN</sub> = 15V (unless otherwise specified)

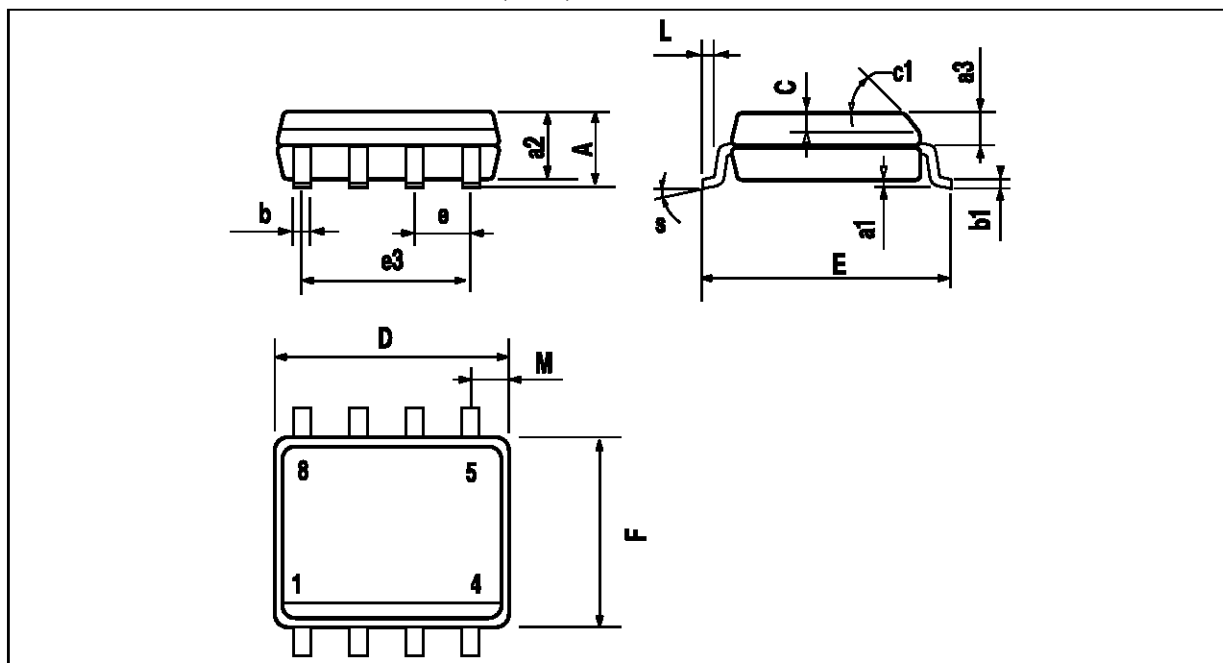
Symbol	Parameter	Value			Unit
		Min.	Typ.	Max.	
V <sub>OUT</sub>	Output Voltage I <sub>OUT</sub> = 0mA	2.475	2.5	2.525	V
$\frac{\Delta V_O}{\Delta T}$	Temperature Coefficient of Output Voltage I <sub>OUT</sub> = 0mA		10	40	ppm/°C
ΔV <sub>O</sub>	Output Voltage change Over the Full Temperature Range I <sub>OUT</sub> = 0mA		2	7	mV
Reg <sub>line</sub>	Line Regulation I <sub>OUT</sub> = 0mA, 4.5V ≤ V <sub>i</sub> ≤ 15V I <sub>OUT</sub> = 0mA, 15V ≤ V <sub>i</sub> ≤ 40V			3 4.5	mV
Reg <sub>load</sub>	Load Regulation 0 ≤ I <sub>OUT</sub> ≤ 10mA			10	mV
I <sub>Q</sub>	Quiescent Current I <sub>OUT</sub> = 0mA		1.2	1.5	mA

**PACKAGE MECHANICAL DATA**  
8 PINS - PLASTIC DIP



Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A		3.32			0.131	
a1	0.51			0.020		
B	1.15		1.65	0.045		0.065
b	0.356		0.55	0.014		0.022
b1	0.204		0.304	0.008		0.012
D			10.92			0.430
E	7.95		9.75	0.313		0.384
e		2.54			0.100	
e3		7.62			0.300	
e4		7.62			0.300	
F			6.6			0.260
i			5.08			0.200
L	3.18		3.81	0.125		0.150
Z			1.52			0.060

**PACKAGE MECHANICAL DATA**  
**8 PINS - PLASTIC MICROPACKAGE (SO8)**



Dimensions	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			1.75			0.069
a1	0.1		0.25	0.004		0.010
a2			1.65			0.065
a3	0.65		0.85	0.026		0.033
b	0.35		0.48	0.014		0.019
b1	0.19		0.25	0.007		0.010
C	0.25		0.5	0.010		0.020
c1	45° (typ.)					
D	4.8		5.0	0.189		0.197
E	5.8		6.2	0.228		0.244
e		1.27			0.050	
e3		3.81			0.150	
F	3.8		4.0	0.150		0.157
L	0.4		1.27	0.016		0.050
M			0.6			0.024
S	8° (max.)					

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