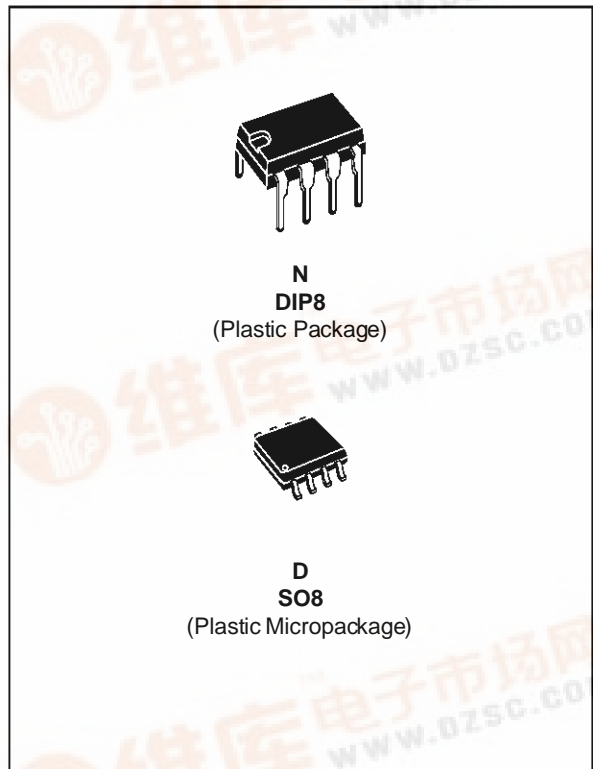




# MC1403

## 2.5V PRECISION SERIAL VOLTAGE REFERENCE

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



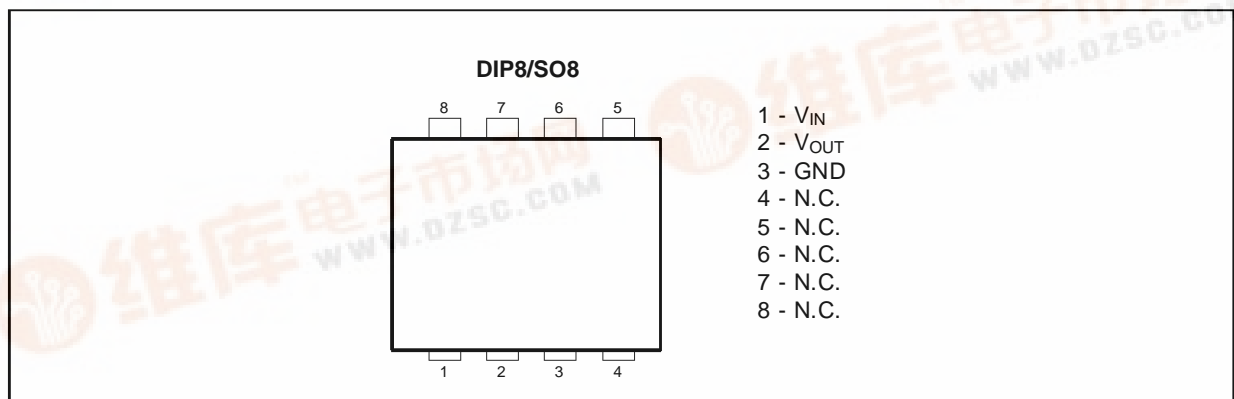
### DESCRIPTION

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)



## MC1403

### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{IN}$	Input Voltage	40	V
$T_{oper}$	Operating Free-air Temperature Range	0 to +70	°C
$T_{stg}$	Storage Temperature Range	-65 to +150	°C

### OPERATING CONDITIONS

Symbol	Parameter	Value	Unit
$V_{IN}$	Input Voltage ( $I_o = 0mA$ )	4.5 to 40	V

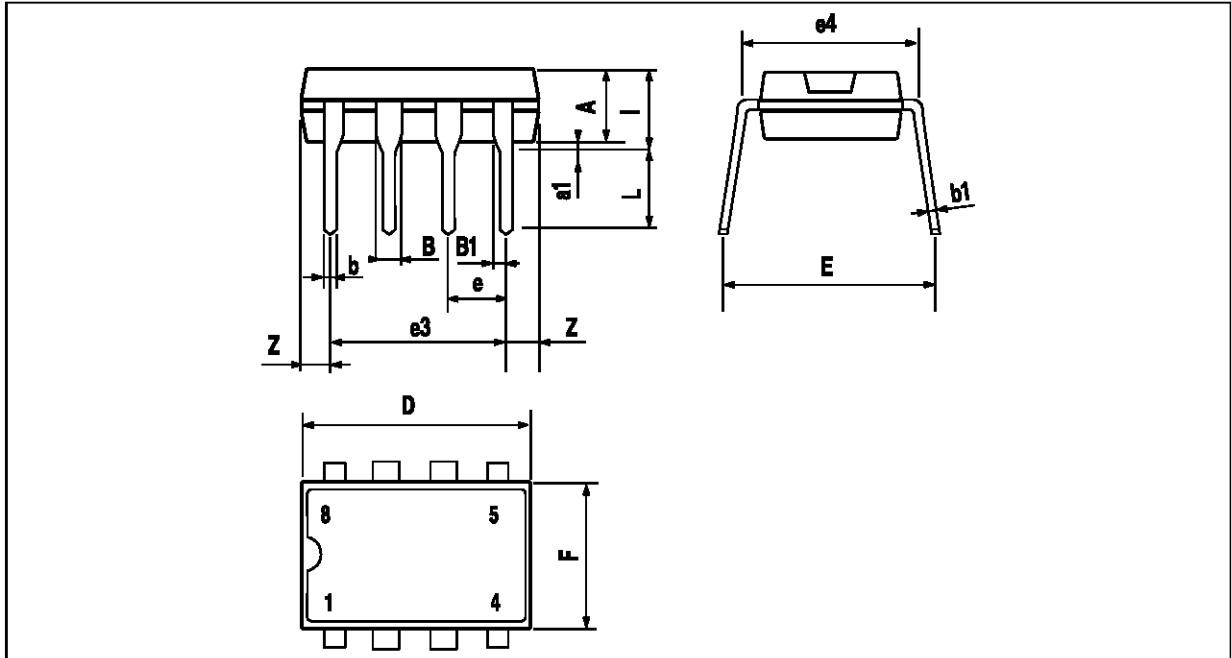
### ELECTRICAL CHARACTERISTICS

$T_{amb} = 25^{\circ}C$ ,  $V_{IN} = 15V$  (unless otherwise specified)

Symbol	Parameter	Value			Unit
		Min.	Typ.	Max.	
$V_{OUT}$	Output Voltage $I_{OUT} = 0mA$	2.475	2.5	2.525	V
$\frac{\Delta V_O}{\Delta T}$	Temperature Coefficient of Output Voltage $I_{OUT} = 0mA$		10	40	ppm/°C
$\Delta V_O$	Output Voltage change Over the Full Temperature Range $I_{OUT} = 0mA$		2	7	mV
$Reg_{line}$	Line Regulation $I_{OUT} = 0mA$ , $4.5V \leq V_i \leq 15V$ $I_{OUT} = 0mA$ , $15V \leq V_i \leq 40V$			3 4.5	mV
$Reg_{load}$	Load Regulation $0 \leq I_{OUT} \leq 10mA$			10	mV
$I_Q$	Quiescent Current $I_{OUT} = 0mA$		1.2	1.5	mA

**PACKAGE MECHANICAL DATA**

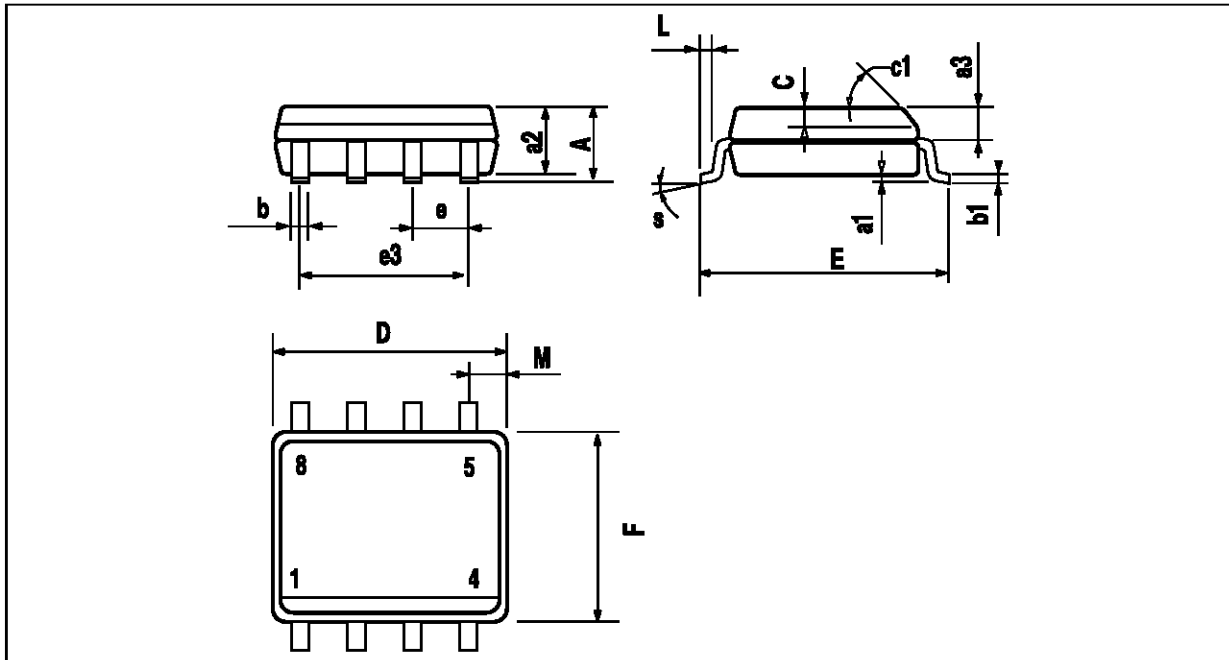
8 PINS - PLASTIC DIP



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

**MC1403**

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



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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