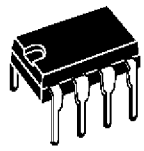
SGS-THOMSON MICROELECTRONICS

TS462

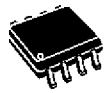
HIGH OUTPUT SWING - LOW NOISE DUAL OPERATIONAL AMPLIFIER

PRODUCT PREVIEW

- VERY LOW NOISE LEVEL : **4nV/√Hz**
- ULTRA LOW DISTORTION : **0.003%**
- HIGH GAIN BANDWIDTH PRODUCT : **12MHz**
- TYPICAL SLEW RATE : **4V/µs**
- LARGE OUTPUT SWING (±2.4V @V_{CC} = ±2.5V)
- ESD TOLERANCE : 2kV
- LATCH-UP IMMUNITY



N
DIP8
(Plastic Package)



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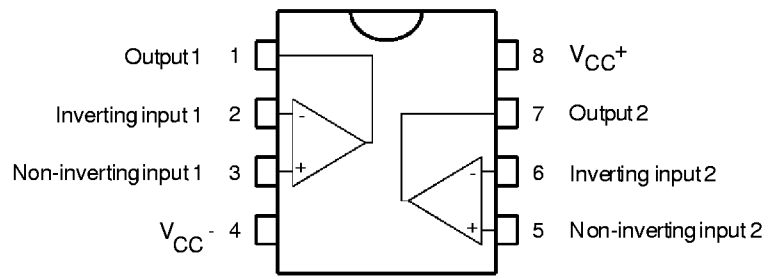
DESCRIPTION

The TS462 is a dual operational amplifier able to operate with voltages as low as ±1.35V and to reach a minimum of ±2Vpp of output swing (when supplied with ±2.5V).
This device is well-suited for every kind of portable and battery-supplied equipment in which low noise and low distortion are a key.
The TS462 is a cost-attractive access to the range of the Rail to Rail op-amps from SGS-THOMSON (TS9xx serie).

ORDER CODES

Part Number	Temperature Range	Package	
		N	D
TS462I	-20, +70°C	•	•

PIN CONNECTIONS (top view)



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CC}	Supply Voltage	±6	V
V_{id}	Differential Input Voltage - note 1	$\pm V_{CC}$	V
T_{oper}	Operating Free Air Temperature Range	-20 to 70	°C
T_{stg}	Storage Temperature	-65 to +150	°C

Note : 1. Either or both input voltages must not exceed the magniture of V_{CC}^+ or V_{CC}^-

OPERATING CONDITIONS

Symbol	Parameter	Value	Unit
V_{CC}	Supply Voltage	±1.35 to ±5	V

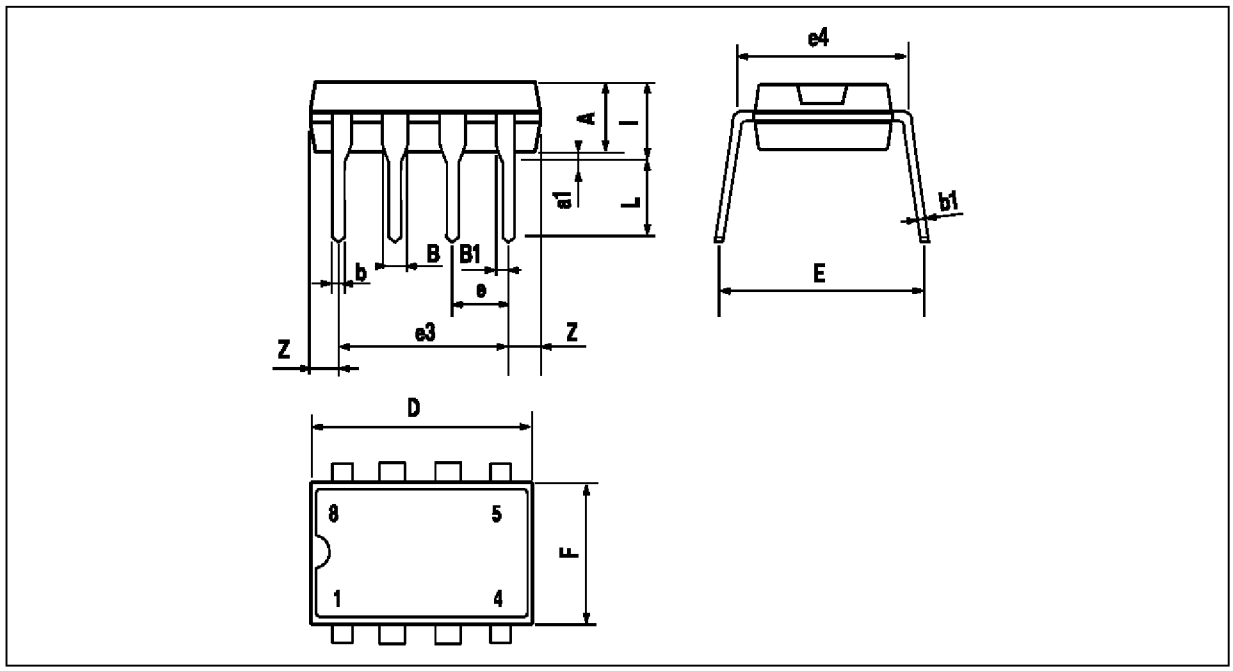
ELECTRICAL CHARACTERISTICS

$V_{CC}^+ = +2.5V$, $V_{CC}^- = -2.5V$, $T_{amb} = 25°C$ (unless otherwise specified)

Symbol	Parameter		Min.	Typ.	Max.	Unit
V_{io}	Input Offset Voltage V_{ic} = 0V, V_o = 0V				5	mV
DV_{io}	Input Offset Voltage Drift V_{ic} = 0V, V_o = 0V			2		µV/°C
I_{io}	Input Offset Current V_{ic} = 0V, V_o = 0V			10	150	nA
I_{ib}	Input Bias Current V_{ic} = 0V, V_o = 0V			250	750	nA
V_{icm}	Common Mode Input Voltage Range		±1.35	±1.5		V
CMR	Common Mode Rejection Ratio V_{ic} = ±1.35V		60	85		dB
SVR	Supply Voltage Rejection Ratio V_{CC} = ±2V to ±3V		50	70		dB
V_{oh}	High Level Output Voltage V_{id} = 100mV	R_L = 2k	2	2.4		V
V_{ol}	Low Level Output Voltage V_{id} = -100mV	R_L = 2k		-2.4	-2	V
A_{vd}	Large Signal Voltage Gain	R_L = 2k	60	80		dB
GBP	Gain Bandwidth Product f = 100kHz, R_L = 2kΩ, C_L = 100pF		8.2	12		MHz
Øm	Phase Margin R_L = 2kΩ, C_L = 100pF			55		Degrees
Gm	Gain Margin			10		dB
SR	Slew Rate A_V = 1, V_{in} = ±1V		2.8	4		V/µs
I_{CC}	Supply Current per Amplifier Unity gain - no load			2	2.8	mA
e_n	Equivalent Input Noise Voltage f = 100kHz			4		$\frac{nV}{\sqrt{Hz}}$
THD	Total Harmonic Distortion f = 1kHz, A_V = 40dB, R_L = 10kΩ			0.003		%

PACKAGE MECHANICAL DATA

8 PINS - PLASTIC DIP



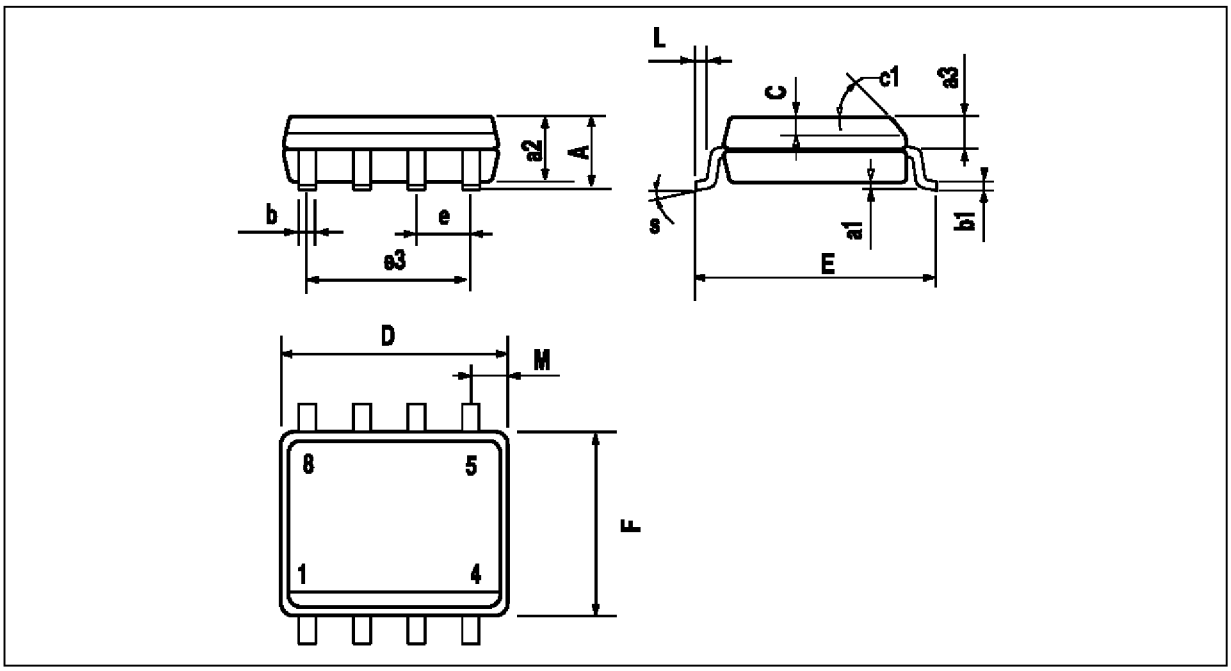
PM-DIP8.EPS

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			0260
i			5.08			0.200
L	3.18		3.81	0.125		0.150
Z			1.52			0.060

DIP8.TBL

PACKAGE MECHANICAL DATA

8 PINS - PLASTIC MICROPACKAGE (SO)



PM-SO8.EPS

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.)					

SO8.TBL

ORDER CODE :