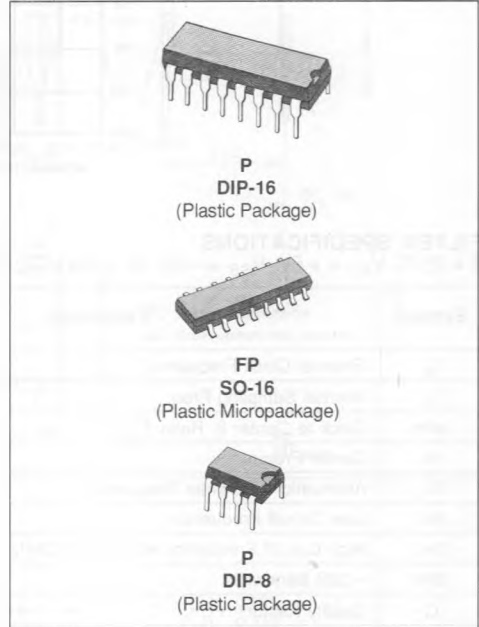


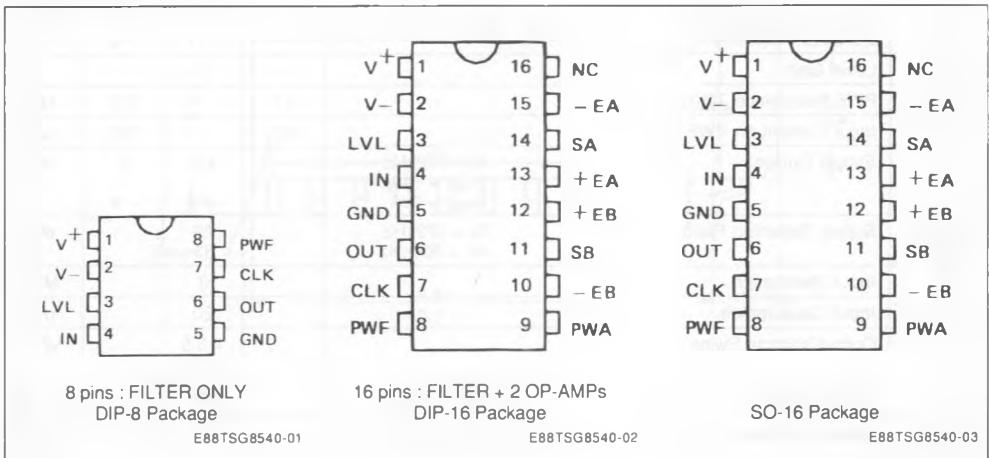
SWITCHED CAPACITOR FILTER

- 6TH ORDER
- SELECTIVITY FACTOR : $Q = 5$
- ATTENUATION AT CENTER FREQUENCY FROM 36dB TO 56dB DEPENDING ON CENTER FREQUENCY
- TYPICAL CLOCK TO CENTER FREQUENCY RATIO : 925
- CLOCK FREQUENCY RANGE : 18.5kHz TO 1110kHz
- CENTER FREQUENCY RANGE : 20Hz TO 1200Hz

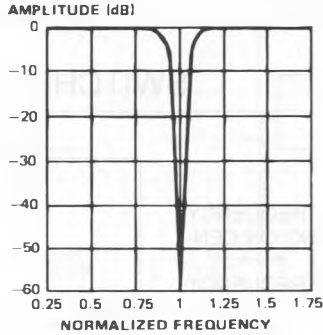
Note : For general characteristics, see TSGF08 specifications. For non standard quality level, consult SGS-THOMSON general ordering information.


DESCRIPTION

The TSG8540 is a HCMOS bandreject filter.

PIN CONNECTIONS


AMPLITUDE RESPONSE CURVE



E88TSG8540-04

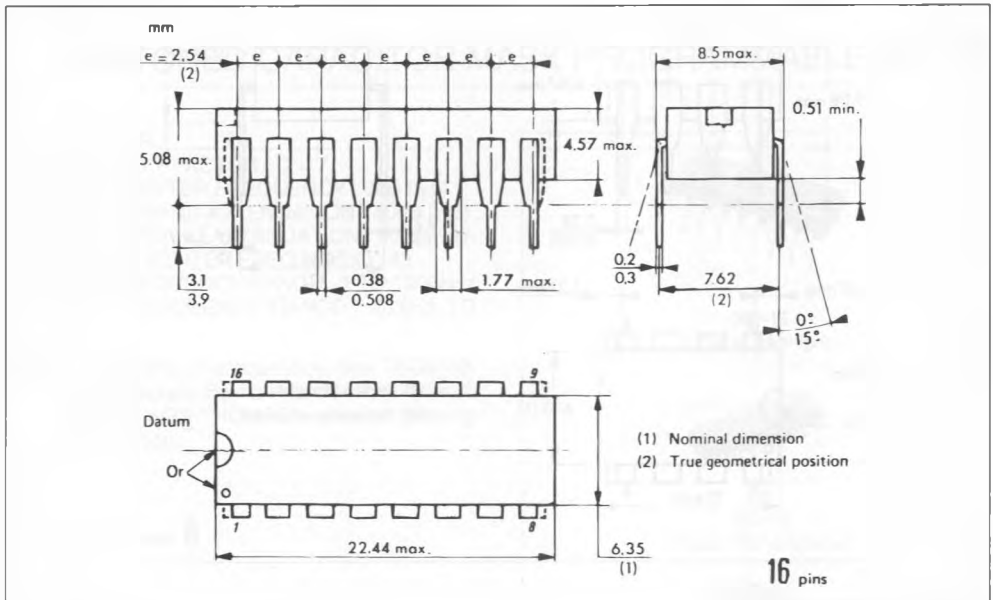
FILTER SPECIFICATIONS

T = 25°C, V_{DD} = +5V, V_{SS} = -5V, R_L = 5kΩ, C_L = 100pF, I_{PWF} = 140μA (unless otherwise specified)

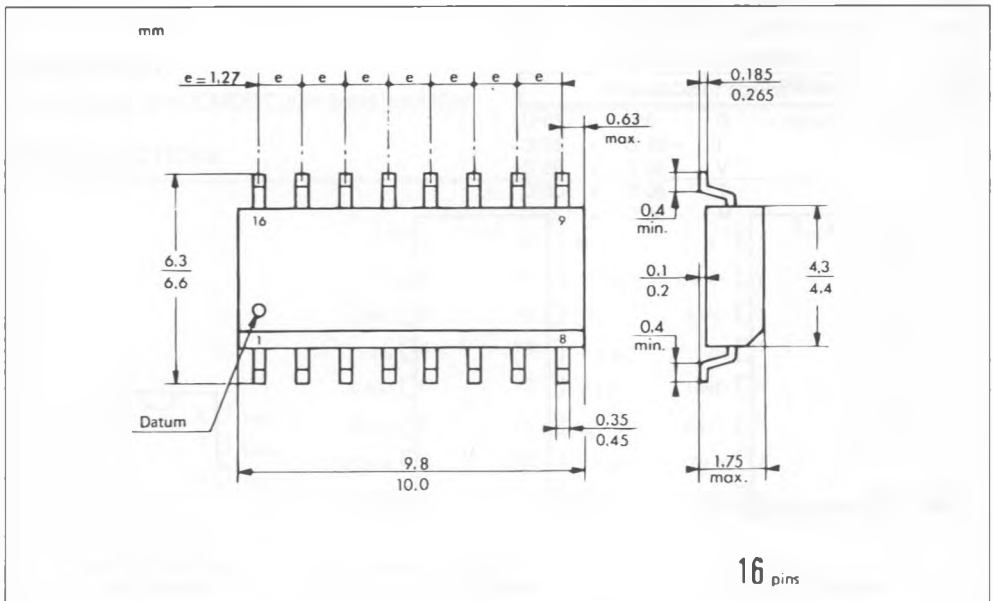
Symbol	Parameter		Value			Unit
			Min.	Typ.	Max.	
f _e	External Clock Frequency		18.6		1116	kHz
f _i	Internal Sampling Freq.	f _o = √(f _{lc} · f _{hc})	9.3		558	kHz
f _e /f _o	Clock to Center fr. Ratio			930 ± 2%		
f _o	Center Frequency		20		1200	kHz
G _o	Attenuation at Center Frequency	with f _e = 370kHz	30	35		dB
f _{lc}	Low Cut-off Frequency	F _{lc} = 0.91f _o	18.2		1092	Hz
f _{hc}	High Cut-off Frequency with F _e = 372kHz	f _{hc} = 1.1f _o	22		1320	Hz
BW	- 3dB Bandwidth		3.8		228	Hz
Q	Quality Factor			5		
A _{lp}	Low Passband Gain	for f < f _o /2	- 1	0	+ 1	dB
A _{hp}	High Passband Gain	for f > 2f _o	- 1.5	0	+ 0.5	dB
V _{off}	Output DC Offset Voltage	LVL = 0V		± 100	± 250	mV
LVL	DC Level Adjustment			± 17	± 42	mV
LG	Level Gain			6		
R _{PWF}	PWF Resistance 72KΩ		9.7		272	kΩ
I _{PWF}	Input Current on PWF		50		260	μA
I ₊	Supply Current	f _e = 372kHz I _{PWF} = 140μA I _{PWA} = 0μA		4.6	9	mA
I ₋				-4.6	- 9	
PSSR + PSSR -	Supply Rejection Ratio			20 33		dB
R _{in}	Input Resistance			3		MΩ
C _{in}	Input Capacitance			20		pF
V _O	Output Voltage Swing			+ 3.5 - 4.5		V _{PP}
V _n	Output Noise	BW = 93kHz f _e = 372kHz		900		μVrms
SNR	Signal to Noise Ratio	V _{IN} = 2Vrms		67		dB

PACKAGE MECHANICAL DATA

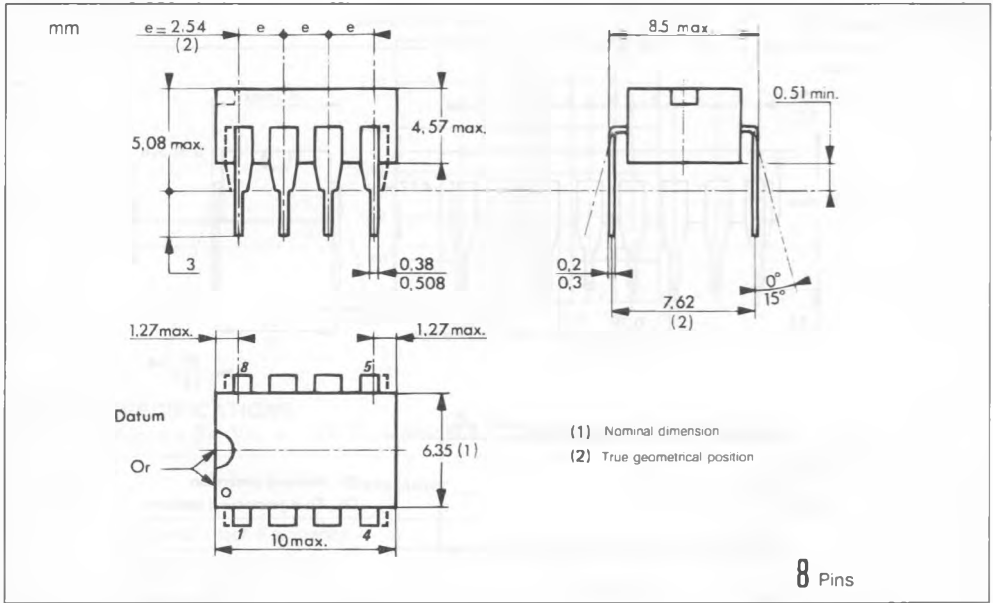
16 PINS - Plastic Dip



16 PINS - Plastic Micropackage



8 PINS - Plastic Dip



ORDER CODES

Plastic	16 Pins Package : TSG8540XP
Ceramic	16 Pins Package : TSG8540XC
Cerdip	16 Pins Package : TSG8540XJ
Plastic	8 Pins Package : TSG8540XP

X : Temperature Range = C : 0°C + 70°C
 I : - 25°C + 85°C
 V : - 40°C + 85°C
 T : - 40°C + 105°C
 M : - 55°C + 125°C