

TSGF SERIES**TSGF12****TSGF12 - 8th TO 12th ORDER ANALOG FILTER**

TSGF12 array offers the capability to integrate either one single from 8th to 12th order or 2 different filters whose sum of orders cannot exceed 12.

These 2 different filters can have either same clock or 2 different clock inputs.

The TSGF12 package versions are :

- 16 pin DIL : 1 filter + 2 Op-amps
- 16 pin DIL : 1 filter + 2 Op-amps
+ driving of output S/H
- 16 pin DIL : 2 filters + 1 Op-amp
+ 2 clock inputs.
- 18 pin DIL : 2 filters + 2 Op-amps
+ 1 clock input.
- 20 pin DIL : 2 filters + 2 Op-amps
+ 2 clock inputs.
- 20 pin DIL : 2 filters + 2 Op-amps
+ 2 clock inputs
+ driving of output S/H.

TSGF12 array are also available in SO wide package version (0.3 inch) : 18 and 24 pin versions.

In case of dual filter integration, the CLKSH pin operates only on the output of filter n° 1 (OUTPUT 1). In the same case, for the 16 pin version, only LVL2 pin is available : therefore user can only adjust the Output DC level of filter 2.

Clock divider :

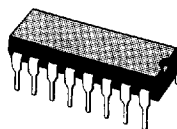
The number of dividers by 2 available on TSGF12 array is 8.

Therefore in case of dual filter on chip integration, there are 2 possibilities to use the clock divider :

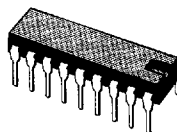
- if one filter does not require internal dividers, the 8 dividers by 2 are available for the second filter ;
- if the first filter requires n internal dividers, it remains only 7-n ones available for the second filter.

TSGF12
BLOCK DIAGRAM

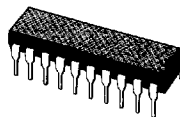
See figure 4 (E88TSGFSERIES-05)



P
DIP-16
(Plastic Package)



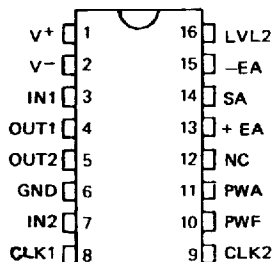
P SUFFIX
DIP-18
(Plastic Package)



P
DIP-20
(Plastic Package)

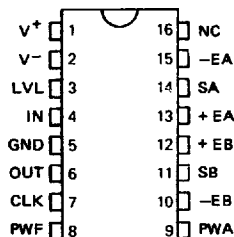
PIN CONNECTIONS

S G S-THOMSON



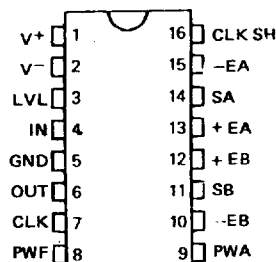
E88TSGF12-01

16 PINS : 2 filters
+ 1 OP - Amp
+ 2 Clock inputs.



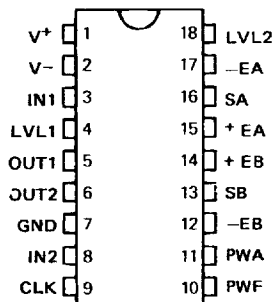
E88TSGF12-02

16 PINS : 1 filter
+ 2 OP - Amp
Compatible with TSGF08



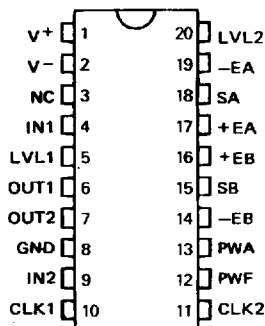
E88TSGF12-03

16 PINS : 1 filters
+ 2 OP - Amps
+ Driving of output S/H.



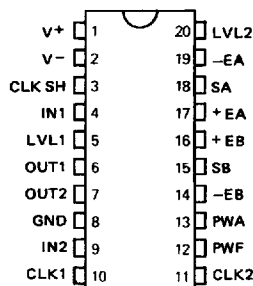
E88TSGF12-04

18 PINS : 2 filters
+ 1 OP - Amp
+ 1 Clock input.



E88TSGF12-05

20 PINS : 2 filters
+ 2 OP - Amps
+ 2 Clock inputs.



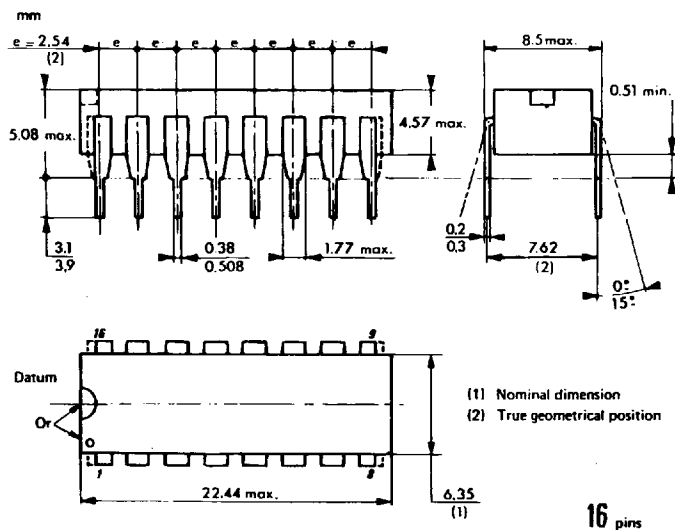
E88TSGF12-06

20 PINS : 2 filters
+ 2 OP - Amps
+ 2 Clock inputs
+ Driving of output S/H.

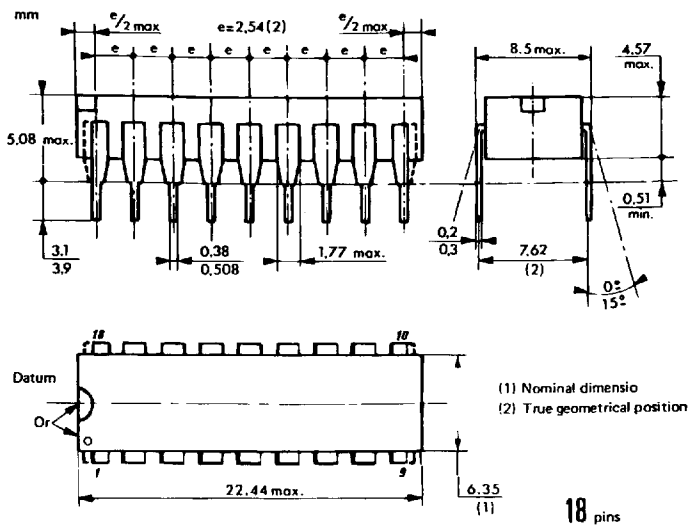
S G S-THOMSON

PACKAGE MECHANICAL DATA

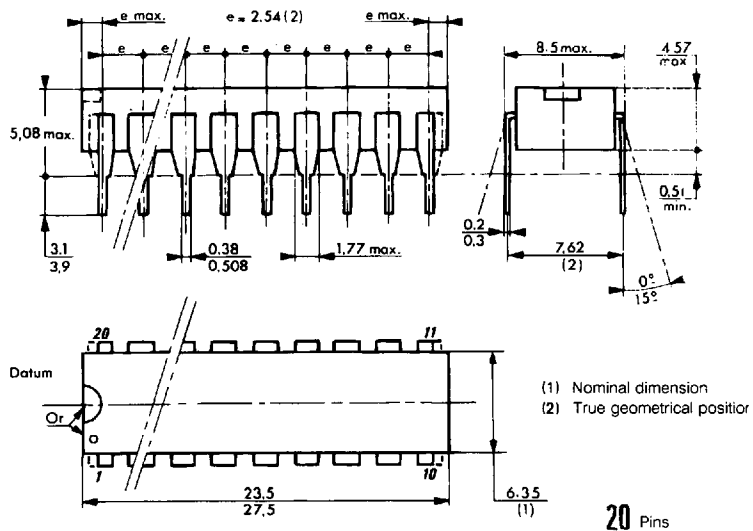
16 PINS - PLASTIC DIP



18 PINS - PLASTIC DIP



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ORDER CODES

T S G F 0 8 1 5 4 A V P D

SGS-THOMSON
Microelectronics

Mask Programmable
Filter Family

Filter Array
04 : 2nd to 4th order
08 : 4th to 8th order
12 : 8th to 12th order

Customer identification
Number

Revision
index

Screening Class
D : Burn-in
: Standard

Package
C : Ceramic DIL
J : Cerdip DIL
P : Plastic DIL
FP : SO

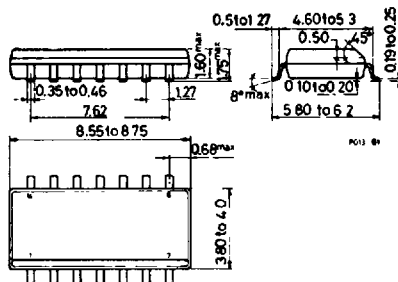
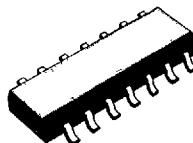
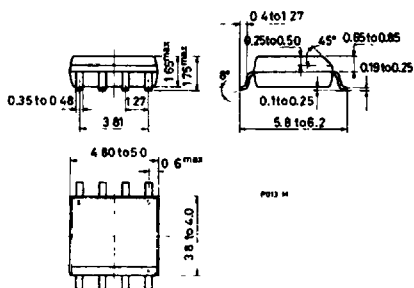
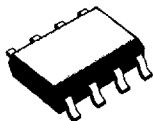
Operating
Temperature Range
C : 0°C, + 70°C
I : - 25°C, + 85°C
M : - 55°C, + 125°C
V : - 40°C, + 85°C
T : - 40°C, + 105°C

SO-8J

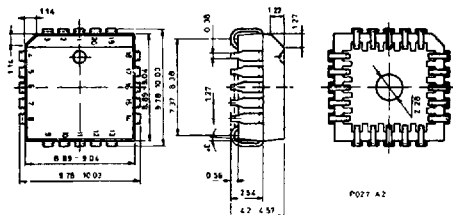
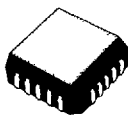
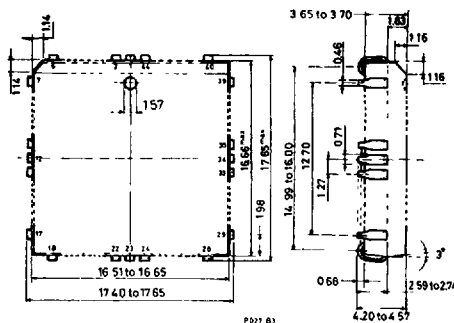
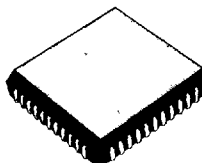
SO-14J

T-90-20

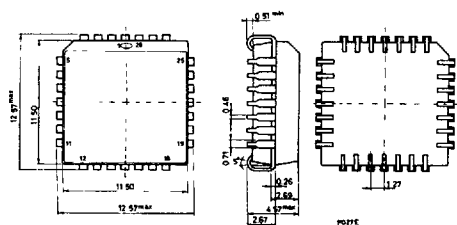
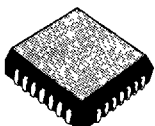
S G S-THOMSON



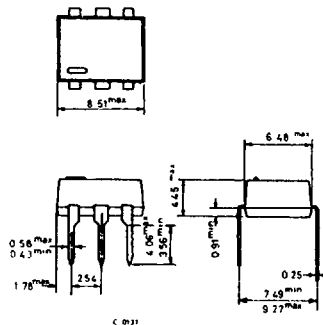
PLCC20

**PLCC44**

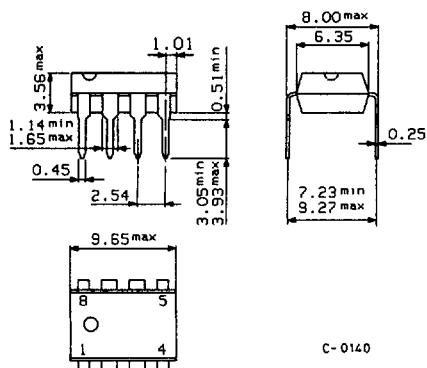
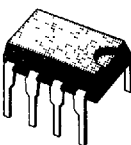
PLCC-28 Plastic Chip Carrier



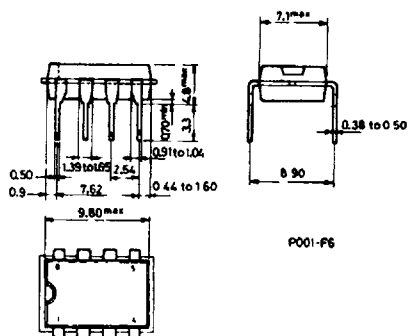
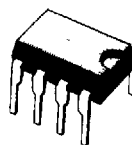
DIP-6



Minidip A Plastic

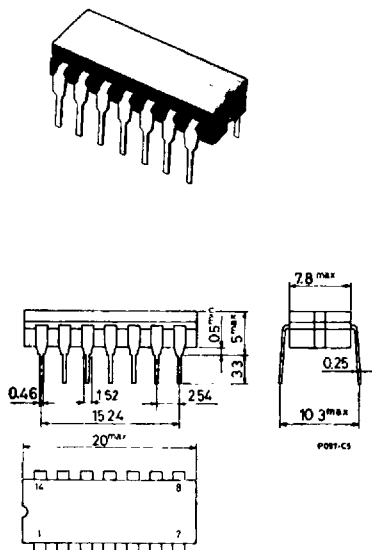


8 lead Plastic Minidip

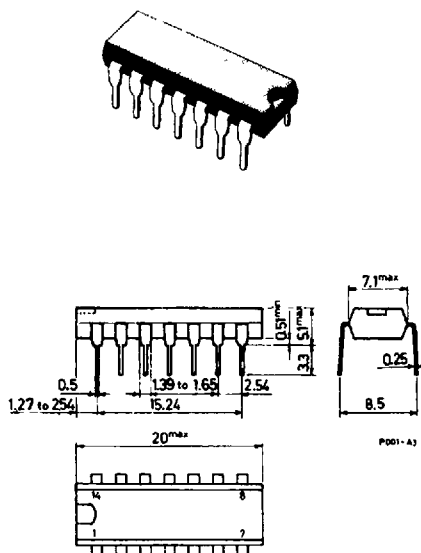


S G S-THOMSON

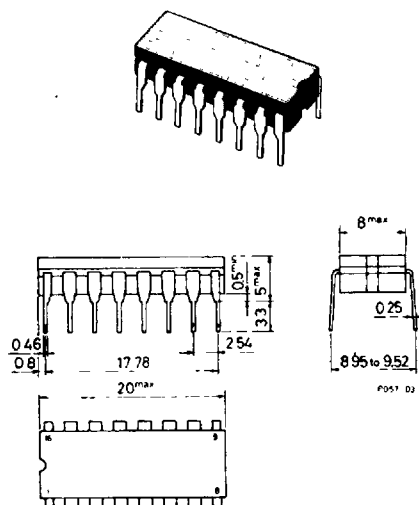
14 lead Ceramic Dip



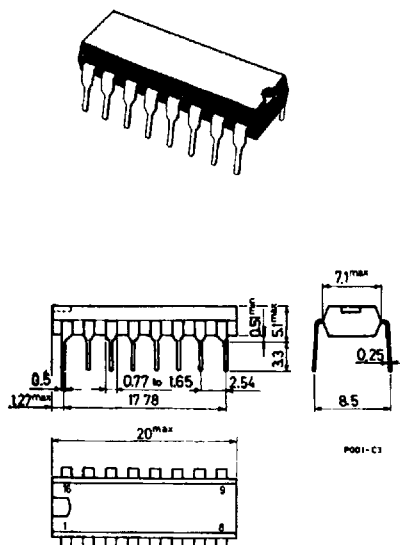
14 lead Plastic Dip



16 lead Ceramic Dip



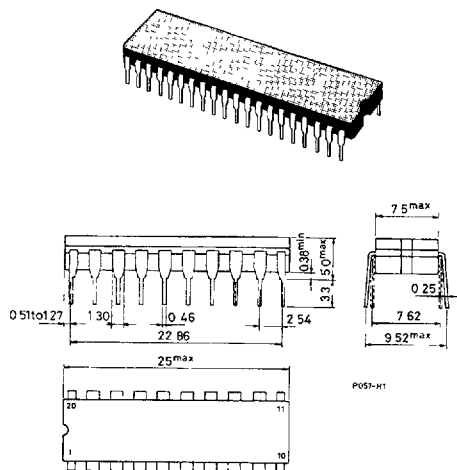
16 lead Plastic Dip (0.25)



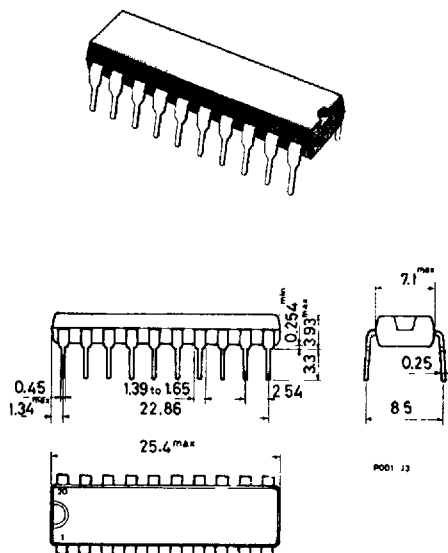
PACKAGES

S G S-THOMSON

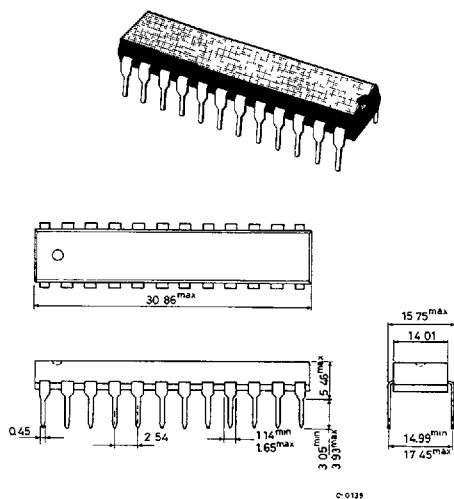
DIP-20 Ceramic



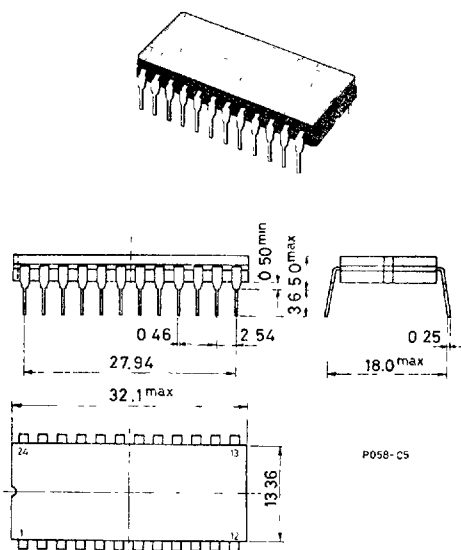
20 lead Plastic Dip (0.25)



DIP-24 Plastic

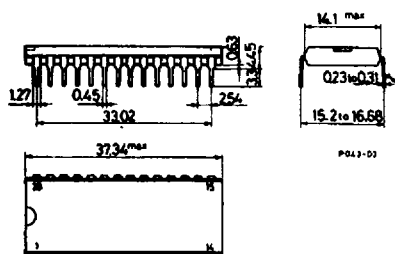
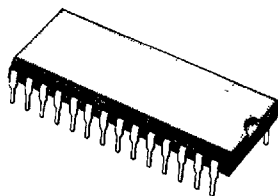


DIP-24 Ceramic (0.25)

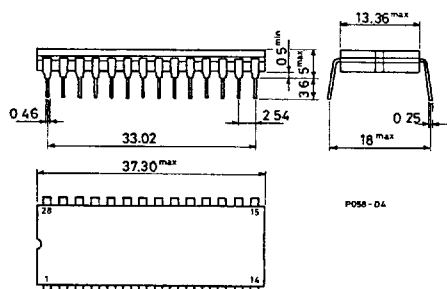
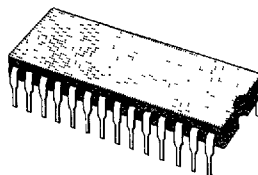


S G S-THOMSON

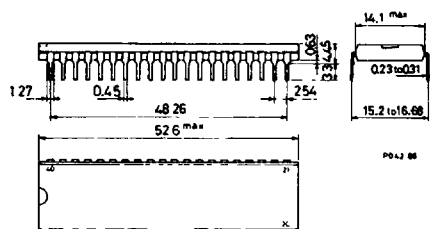
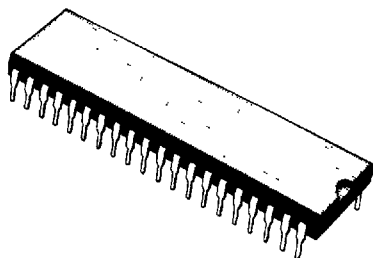
28 lead Plastic Dip



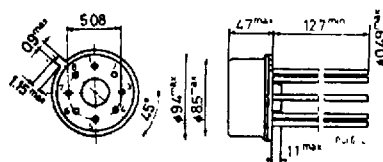
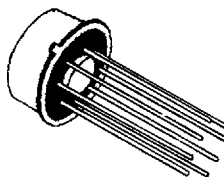
DIP-28 Ceramic (0.25)



40 lead Plastic Dip



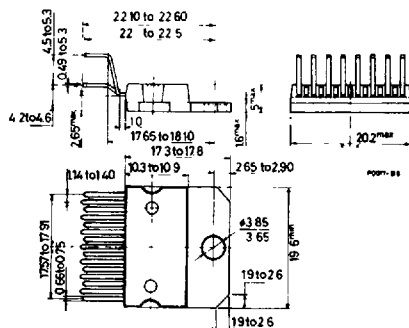
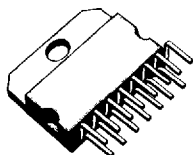
TO-99



PACKAGES

S G S-THOMSON

MULTIWATT-15



FLEXIWATT-15

