

THOMSON SEMICONDUCTORS

78C 06567

T-64-05
TS85XX

MASK - PROGRAMMABLE SWITCHED CAPACITOR FILTERS

The TS85XX circuits are HCMOS universal filters containing a mask programmable switched-capacitor cascaded structure and two uncommitted general purpose operational amplifiers.

The specifications of the internal filter are obtained during the last step of chip realization. The specialization method (Patented) used by THOMSON SEMICONDUCTORS is close to the one used for gate array integrated circuits.

For custom filters, the switched capacitors filter specialization is implemented by THOMSON SEMICONDUCTORS designers in accordance with the user gauge. Most filters can be realized. Samples are available 6 to 8 weeks after the filter gauge definition.

This technique has also been used to define THOMSON SEMICONDUCTORS family of general purpose filters.

Based on the switched-capacitor structure, these circuits exhibit all the advantages of this technique, namely precise gauge, high temperature and long-range stability, almost no external component, no adjustment, low consumption, high density, easy customization, low cost and high security of use.

- Available order : 2 to 8 (any type)
- Input signal frequency range : 0 to 50 KHz
- S/N ratio (depends on the internal structure) : 70 to 85 dB
- Gauge translation possible thru sampling clock tuning
- Power supply requirements : ± 5 V or 0-10 V
- Power consumption : adjustable from 0.5 mW to 20 mW per order.

AVAILABLE PRODUCTS:

• Standard filters

Low pass :

TS8510 : 5 th order Cauer (MIC)
TS8511 : 7 th order Cauer (50 dB)
TS8512 : 7 th order Cauer (75 dB)
TS8513 : 8 th order Tchebychev
TS8514 : 8 th order Butterworth.

High pass :

TS8530 : 3 rd order Cauer
TS8531 : 5 th order Cauer
TS8532 : 5 th Tchebychev

Band pass :

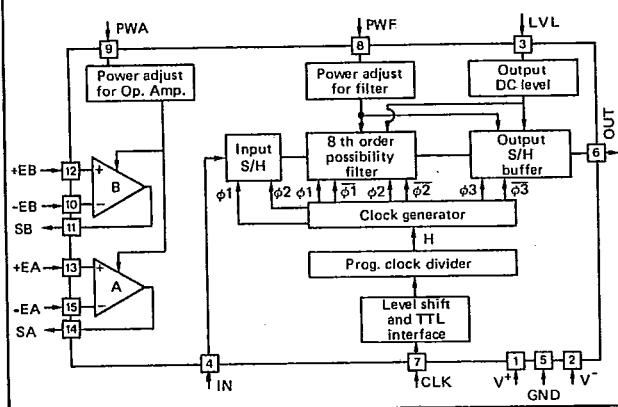
TS8550 : 8 th order Tchebychev

• Custom filters

EFG8508 / Customer identification : prototype delivery shorter than 8 weeks

Typical applications : telecommunications, data acquisition (filtering before A/D conversion and smoothing after D/A conversion) and of course classical action filter replacement.

BLOCK DIAGRAM



THOMSON SEMICONDUCTORS

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747

LINEAR

HCMOS 1

MASK - PROGRAMMABLE SWITCHED CAPACITOR FILTER

CASES

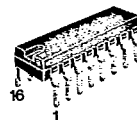
CB-98



P SUFFIX
PLASTIC PACKAGE

J SUFFIX
CERDIP PACKAGE

CB-79



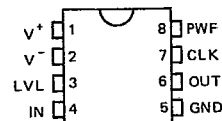
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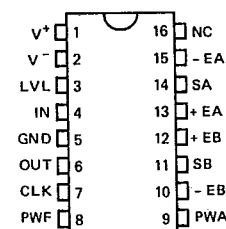
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Hi-REL versions available - See Chapter 14

PIN ASSIGNMENTS



8 pins: FILTER ONLY



16 pins: FILTER+2 OP-AMPs

Ref. 00640-R1

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COMPONENTS