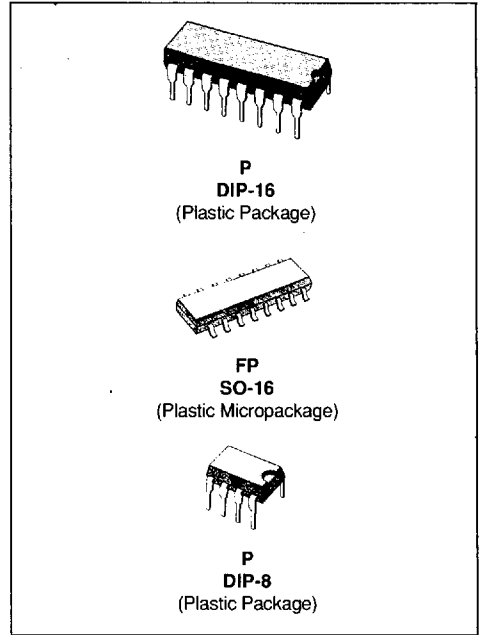


T-64-05

SWITCHED CAPACITOR MASK PROGRAMMABLE FILTER

- CAUER TYPE
- 7TH ORDER
- STOPBAND ATTENUATION : 55dB (typ)
- PASSBAND RIPPLE : 0.1dB (typ)
- CLOCK TO CUT-OFF FREQ. RATIO : 75.3
- CLOCK FREQUENCY RANGE : 1 TO 1300kHz
- CUT-OFF FREQUENCY RANGE : 13Hz TO 17.3kHz

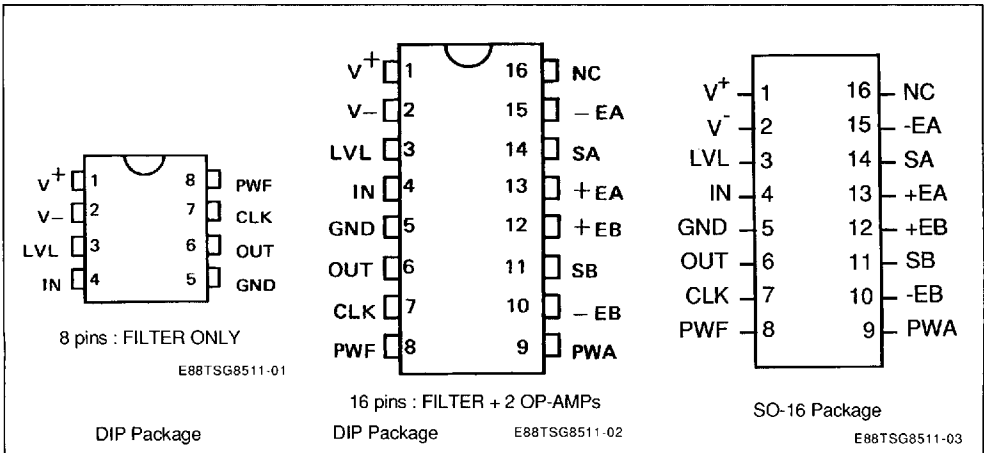
Note : For general characteristics, see TSG85XX specifications. For non standard quality level, consult SGS-THOMSON general ordering information.



DESCRIPTION

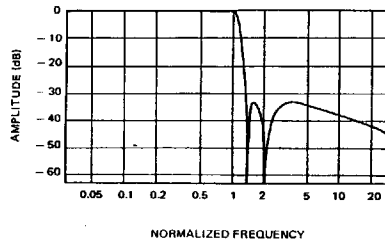
The TSG8511 is a HCMOS lowpass elliptic filter.

PIN CONNECTIONS



AMPLITUDE RESPONSE CURVE

S G S-THOMSON



E88TSG8511-04

FILTER SPECIFICATIONS

Lowpass Filter : TSG8511 ; Type : Cauer ; Order : 7.

 $V^+ = 5V$, $V^- = -5V$, $T = 25^\circ C$, $R_L = 5k\Omega$, $C_L = 100pF$, $I_{PWF} = 100\mu A$

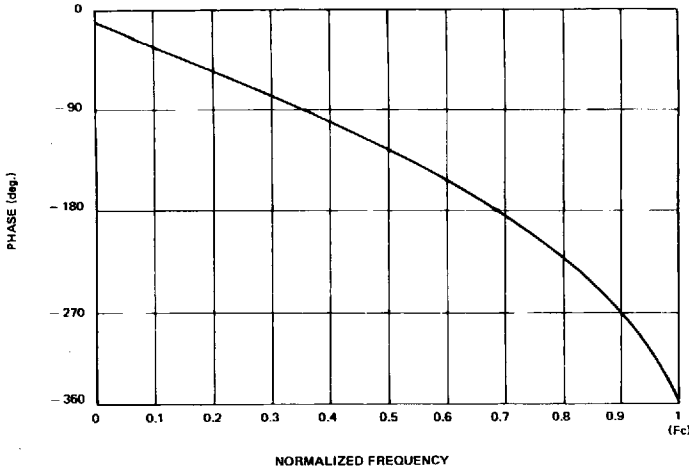
Symbol	Parameter		Typ.	Tested Limits	Unit
Fe	External Clock Freq.		1 1300(*)		kHz (min) kHz (max)
Fi	Internal Sampling Freq.		0.5 650(*)		kHz (min) kHz (max)
Fe/Fc	Clock to Cutoff fr. Ratio		75.3 ± 1%		
Fc	Cutoff Frequency		0.013 17.3(*)		kHz (min) kHz (max)
Go	Passband Gain		- 0.3 0		dB (min) dB (max)
Ap	Passband Ripple	Fe = 256kHz	0.1	0.5	dB (max)
As	Stopband Attenuation	Fe = 256kHz F > 1.3Fc;	55	50	dB (min)
Voff	Output DC Offset Voltage	LVL = 0V	± 150	± 300	mV (max)
LVL	DC Level Adjustment		± 64		mV
LG	Level gain		- 4.7		
R _{PWF}	PWF Resistance		10 72		kΩ (min) kΩ (max)
I _{PWF}	Input Current on PWF		50 250		μA (min) μA (max)
I*	V* Supply Current	Fe = 100kHz I _{pwa} = 0μA	3.5	5	mA (max)
I ⁻	V ⁻ Supply Current		3.5	5	mA (max)
PSRR ⁺	V* Supply Rejection Ratio	Fe = 256kHz Fin = 1kHz	32		dB
PSRR ⁻	V ⁻ Supply Rejection Ratio		47		dB
R _{IN}	Input Resistance		3		MΩ
C _{IN}	Input Capacitance		20		pF
Vo	Output Voltage Swing		+ 3.5 - 4.5		Vp-p (max)
Vn	Output Noise	BW = 3.4kHz Fe = 256kHz	158		μVrms
SNR	Signal to Noise Ratio	Vin = 2Vrms	82		dB

(*) At maximum Fe : - stopband attenuation As > 50dB for F > 1.3Fc

(with I_{pwf} = 250μA) - passband ripple : Ap = 0.5dB
- passband gain : Go = - 0.7dB

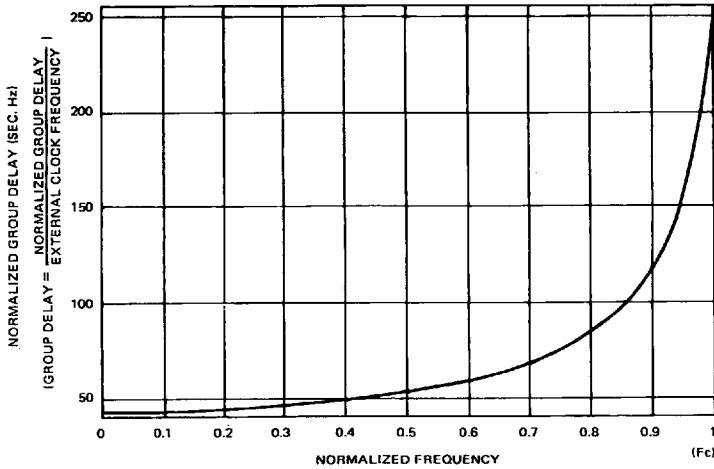
SGS-THOMSON

PHASE RESPONSE CURVE (in passband)



E88TSG8511-05

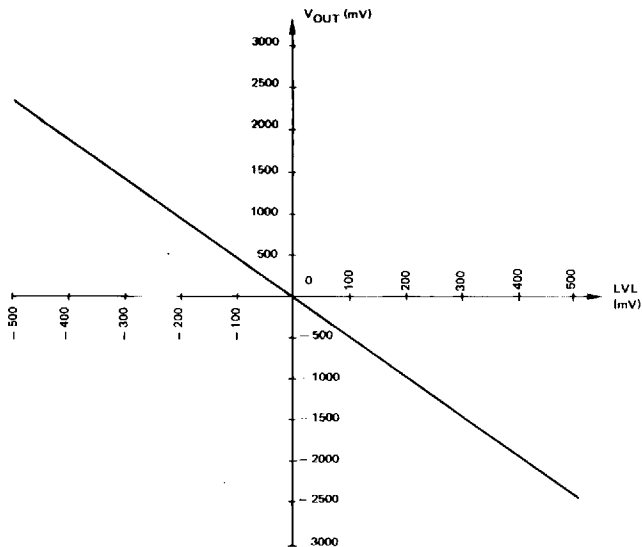
GROUP DELAY CURVE (in passband)



E88TSG8511-06

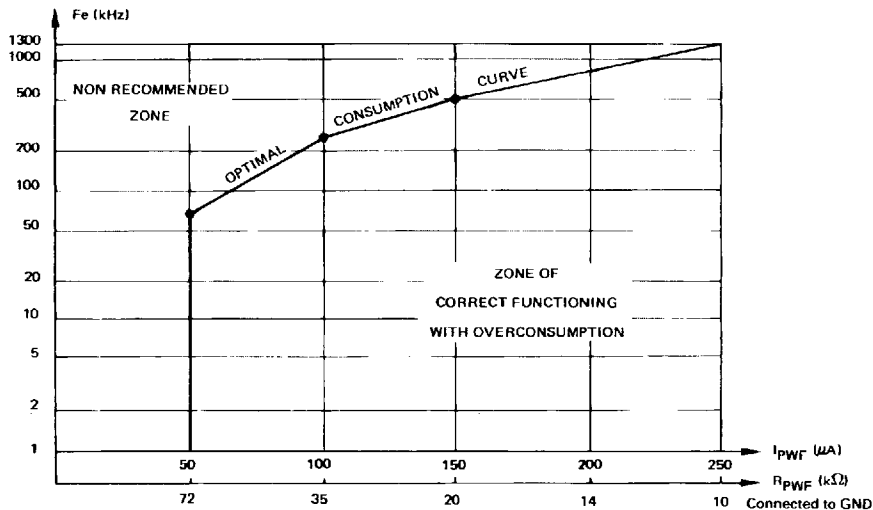
SGS-THOMSON

OUTPUT DC VOLTAGE ADJUSTMENT FROM LVL PIN



E88TSG8511-07

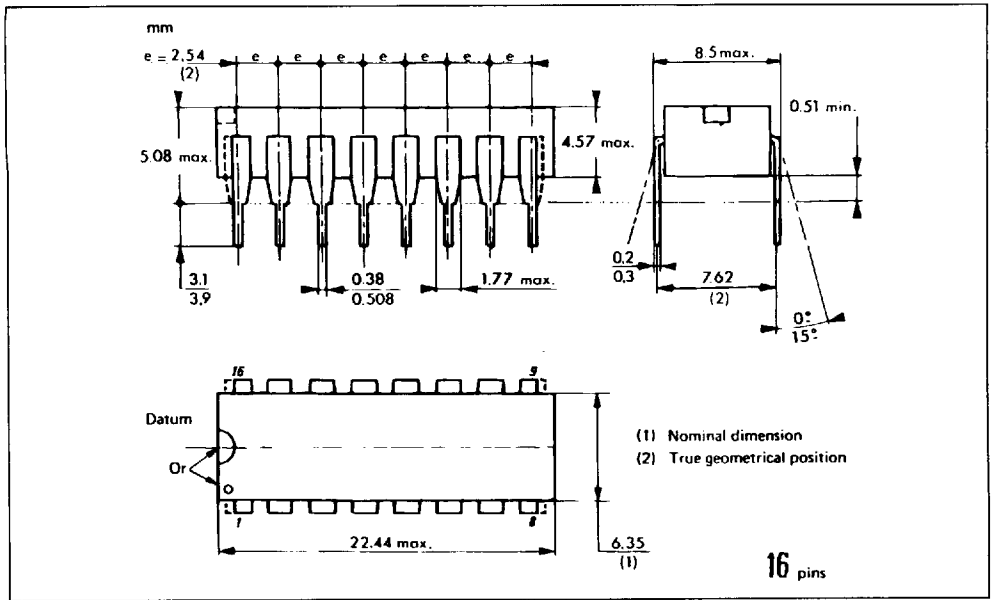
USER'S GUIDE FOR I_{PWF} AND R_{PWF} CHOICE



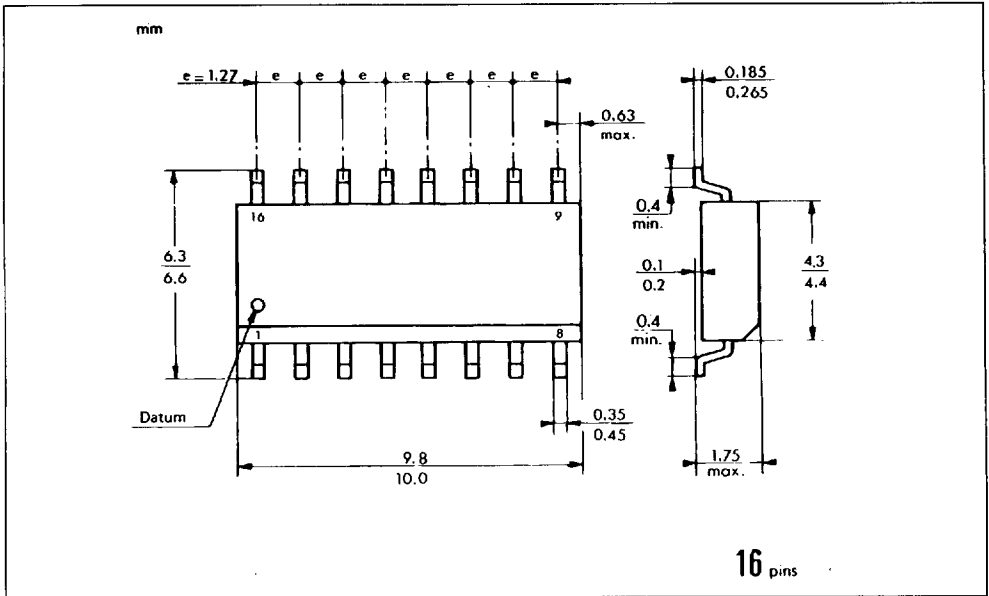
E88TSG8511-08

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PACKAGE MECHANICAL DATA

16 PINS - Plastic Dip

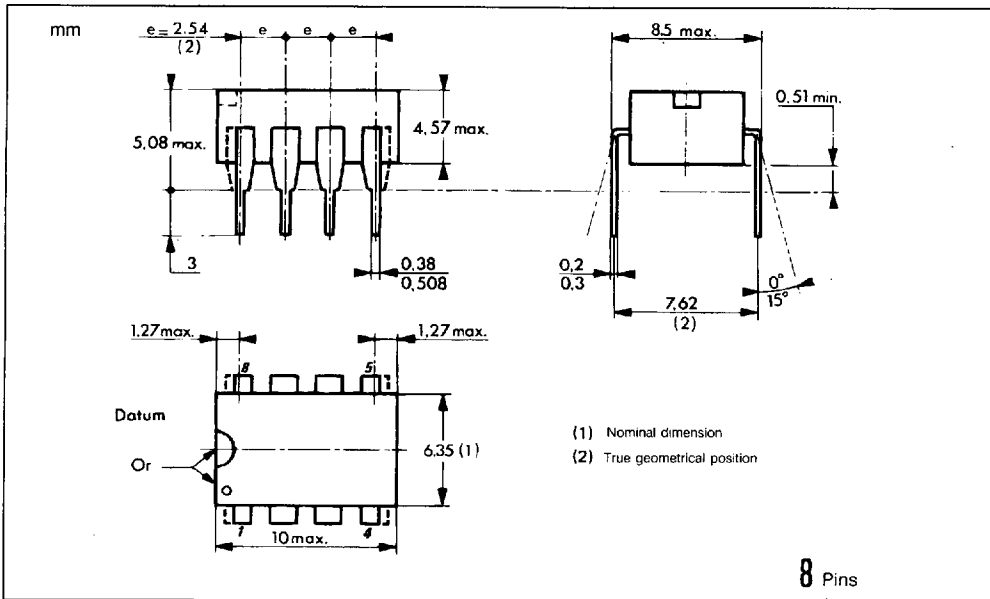


16 PINS - Plastic Micropackage



8 PINS - Plastic Dip

SGS-THOMSON



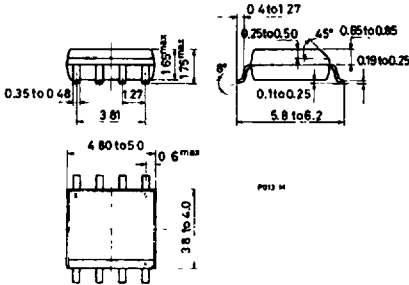
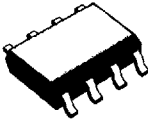
ORDER CODES

Plastic	16 Pins Package : TSG8511XP
Ceramic	16 Pins Package : TSG8511XC
Cerdip	16 Pins Package : TSG8511XJ
Plastic	8 Pins Package : TSG85111XP

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

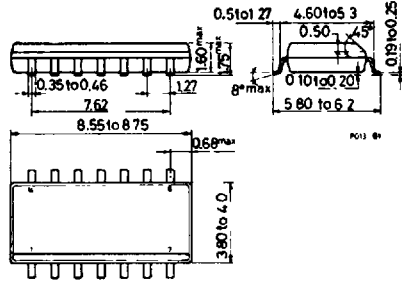
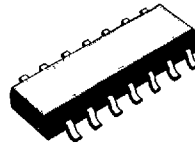
SO-8J

S G S-THOMSON

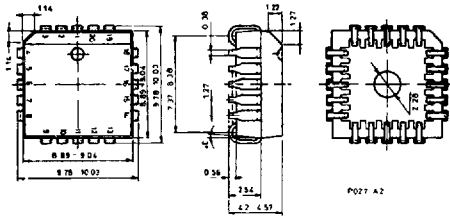
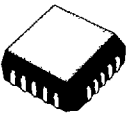


SO-14J

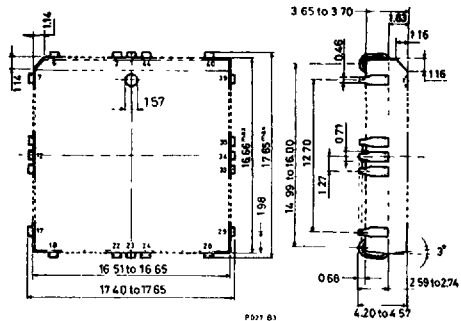
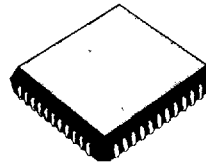
T-90-20



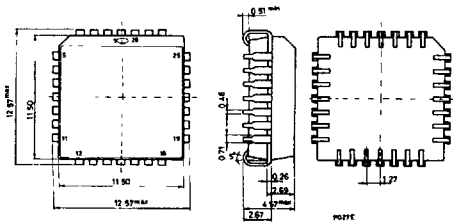
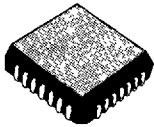
PLCC20



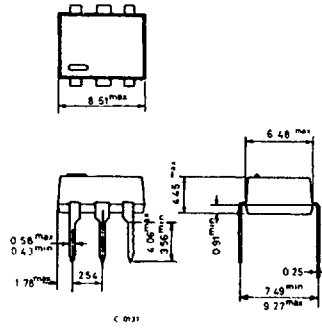
PLCC44



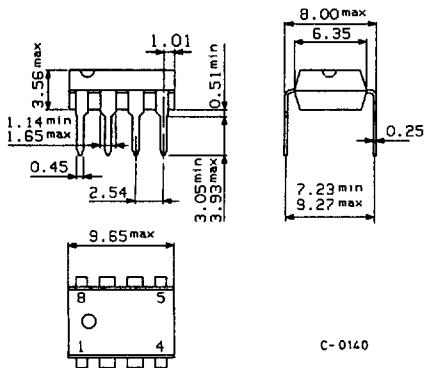
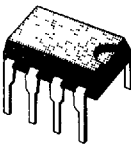
PLCC-28 Plastic Chip Carrier



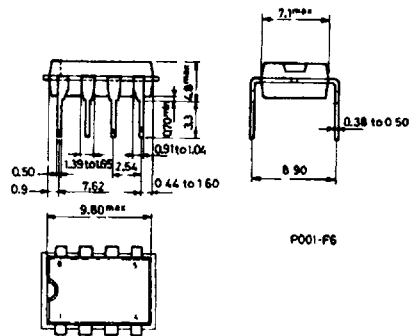
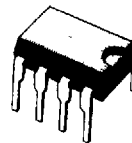
DIP-6



Minidip A Plastic

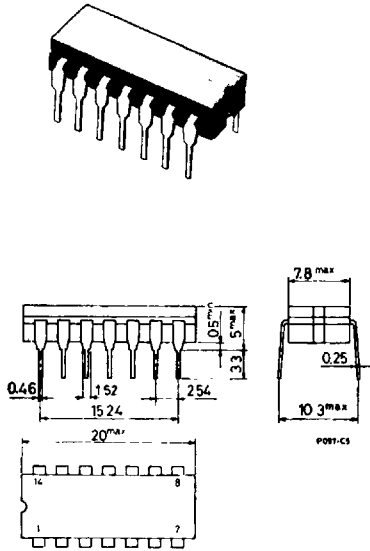


8 lead Plastic Minidip

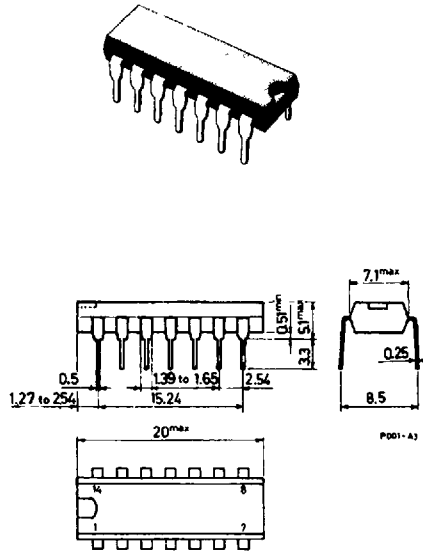


S G S-THOMSON

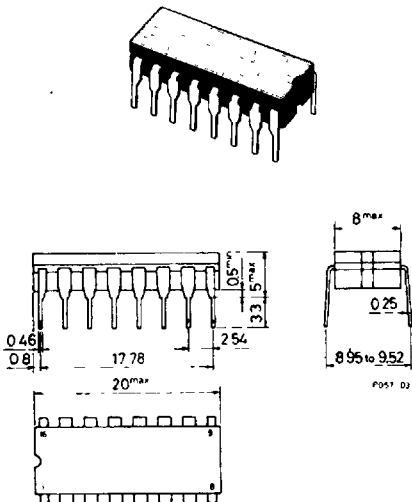
14 lead Ceramic Dip



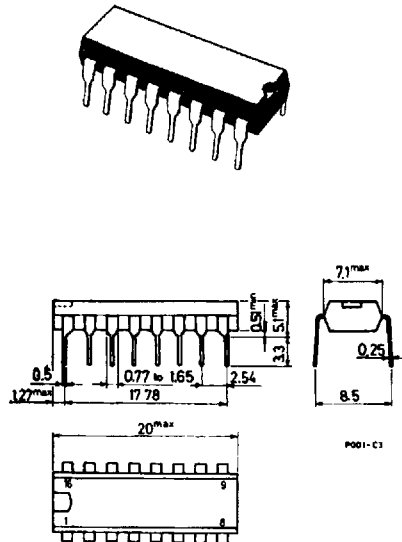
14 lead Plastic Dip



16 lead Ceramic Dip



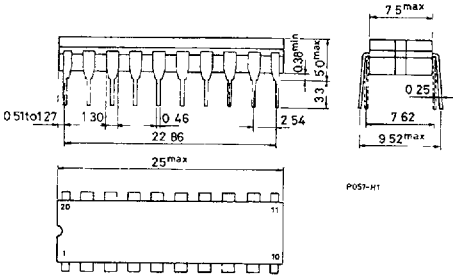
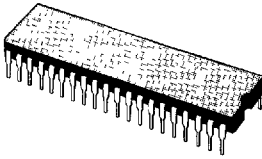
16 lead Plastic Dip (0.25)



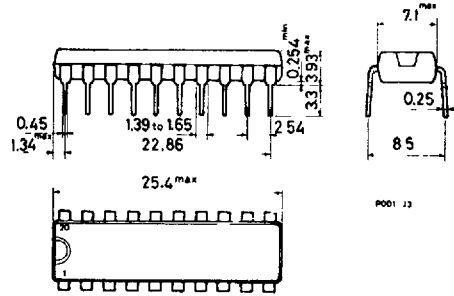
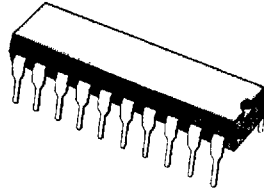
PACKAGES

S G S-THOMSON

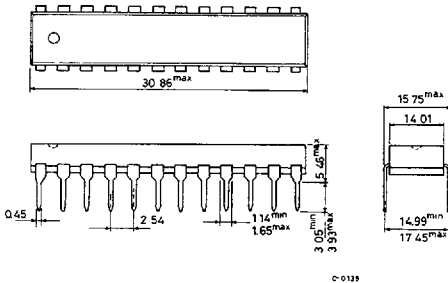
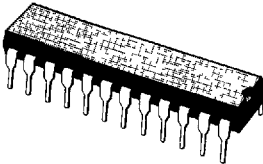
DIP-20 Ceramic



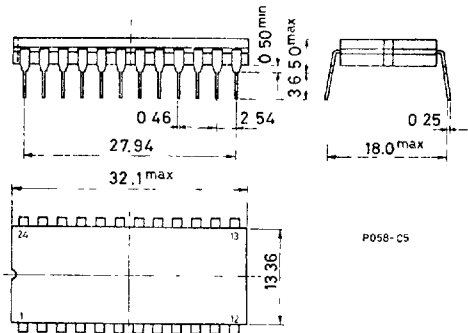
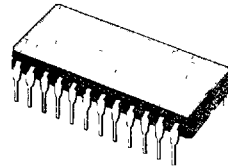
20 lead Plastic Dip (0.25)



DIP-24 Plastic

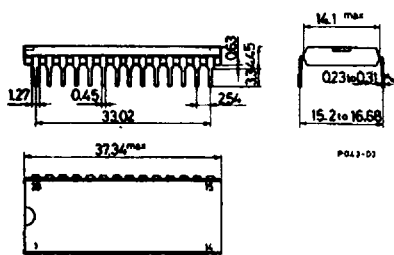
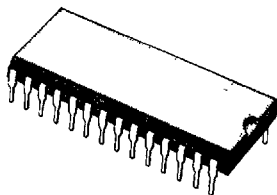


DIP-24 Ceramic (0.25)

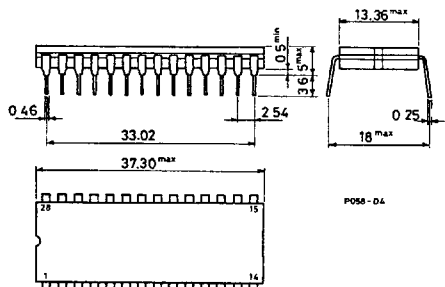
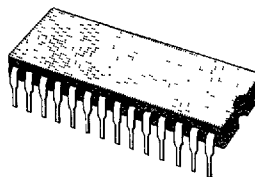


S G S-THOMSON

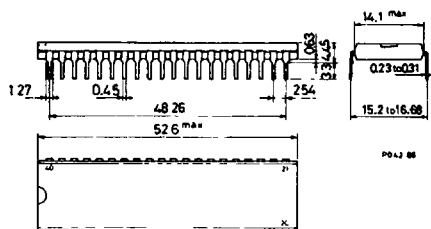
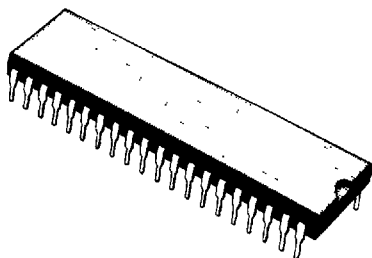
28 lead Plastic Dip



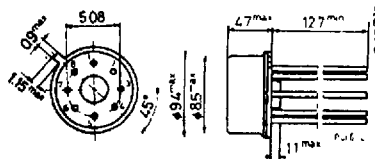
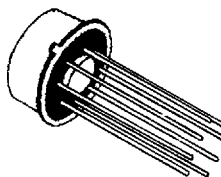
DIP-28 Ceramic (0.25)



40 lead Plastic Dip



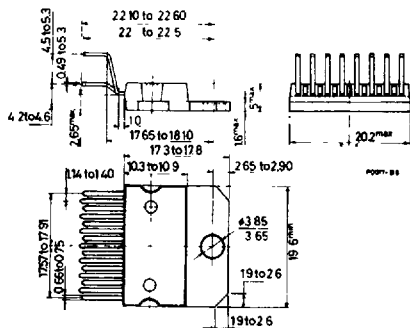
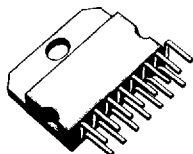
TO-99



PACKAGES

S G S-THOMSON

MULTIWATT-15



FLEXIWATT-15

