DOCUMENTATION

Transformées de Laplace

Fonction temporelle : f(t)	Transformée de Laplace : F(p)
E	$\frac{E}{p}$
a.t	$\frac{a}{p^2}$
$e^{(-t/\tau)}$	$\frac{1}{p+1/\tau}$
$(1 - e^{(-t/\tau)})$	$\frac{1}{\tau p(p+1/\tau)}$
k.f(t) avec k réel	$K.F(p)$
sin(ωt)	$\frac{\omega}{(\omega^2 + p^2)}$

Le théorème de la valeur initiale est : $\lim_{t\to 0} f(t) = \lim_{p\to\infty} pF(p)$

Le théorème de la valeur finale est : $\lim_{t\to\infty} f(t) = \lim_{p\to 0} pF(p)$

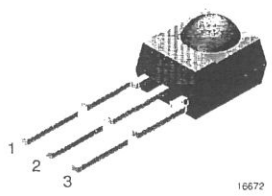
Transformées en z

On appelle Te la période d'échantillonnage ; n et k sont des nombres entiers.

L'échantillon d'un signal x(t) prélevé à l'instant $t = nT_e$ est noté x_n.
A la séquence de nombres $\{x_n\}$ correspond la transformée X(z).

L'échantillon d'un signal x(t) retardé de kT_e par rapport au précédent est noté x_{n-k}.
A la séquence de nombres $\{x_{n-k}\}$ correspond la transformée $z^{-k}X(z)$.

IR Receiver Modules for Remote Control Systems



FEATURES

- Very low supply current
- Photo detector and preamplifier in one package
- Internal filter for PCM frequency
- Improved shielding against EMI
- Supply voltage: 2.5 V to 5.5 V
- Improved immunity against ambient light
- Insensitive to supply voltage ripple and noise
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

MECHANICAL DATA

Pinning:

1 = OUT, 2 = GND, 3 = V_S

DESCRIPTION

The TSOP348.., TSOP344.. series are miniaturized receivers for infrared remote control systems. A PIN diode and a preamplifier are assembled on a lead frame, the epoxy package acts as an IR filter.

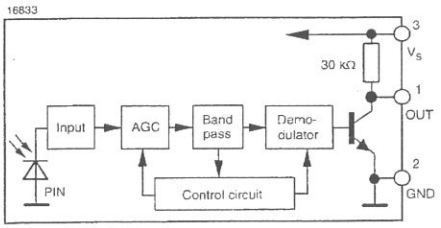
The demodulated output signal can be directly decoded by a microprocessor. The TSOP348.. is compatible with all common IR remote control data formats. The TSOP344.. is optimized to suppress almost all spurious pulses from energy saving fluorescent lamps but will also suppress some data signals.

This component has not been qualified according to automotive specifications.

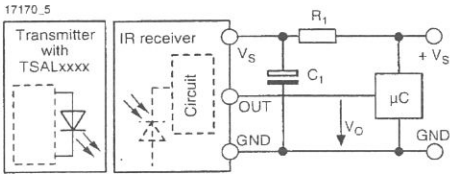
PARTS TABLE

CARRIER FREQUENCY	STANDARD APPLICATIONS (AGC2/AGC8)	VERY NOISY ENVIRONMENTS (AGC4)
30 kHz	TSOP34830	TSOP34430
33 kHz	TSOP34833	TSOP34433
36 kHz	TSOP34836	TSOP34436
38 kHz	TSOP34838	TSOP34438
40 kHz	TSOP34840	TSOP34440
56 kHz	TSOP34856	TSOP34456

BLOCK DIAGRAM



APPLICATION CIRCUIT



R_1 and C_1 are recommended for protection against EOS. Components should be in the range of 33 Ω < R_1 < 1 kΩ, C_1 > 0.1 µF.

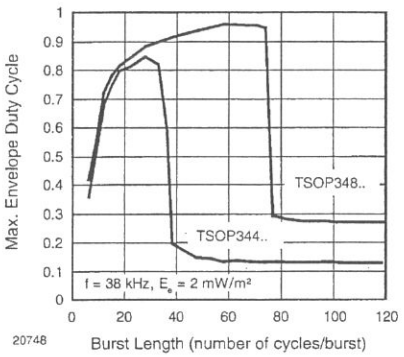


Fig. 9 - Max. Envelope Duty Cycle vs. Burst Length

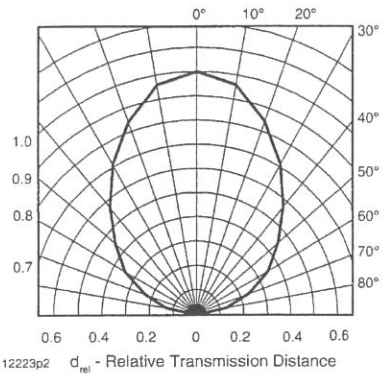


Fig. 12 - Horizontal Directivity

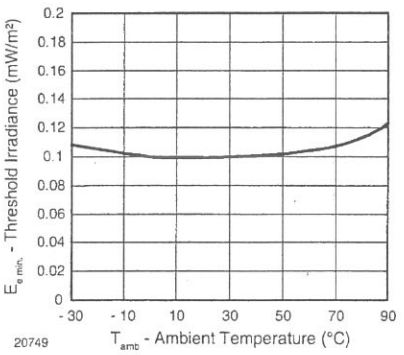


Fig. 10 - Sensitivity vs. Ambient Temperature

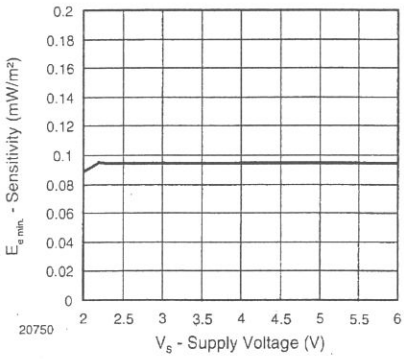


Fig. 13 - Sensitivity vs. Supply Voltage

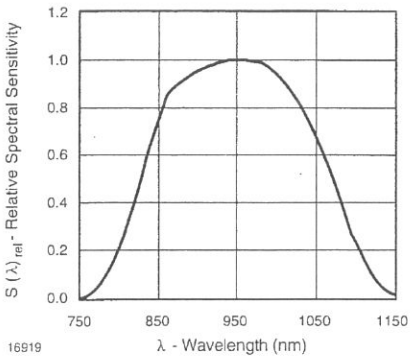


Fig. 11 - Relative Spectral Sensitivity vs. Wavelength