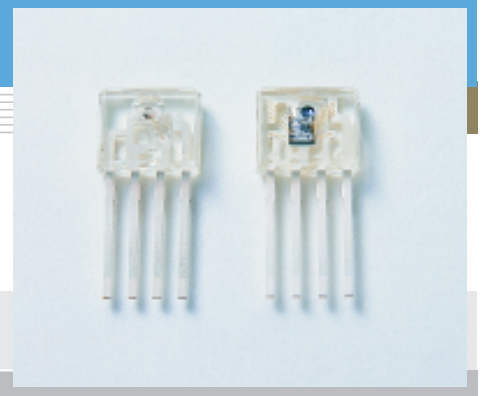


Red LED/Photo IC for optical link

L7726/S7727

Emitter/receiver for 156 Mbps POF communications



L7726 and S7726 are designed for high-speed POF (Plastic Optical Fiber) communications. Both devices are molded into miniature plastic packages with lenses, allowing easy and efficient coupling to a POF. S7727 uses a monolithic photo IC that ensures high resistance to external noise and high reliability, and provides P-ECL voltage conversion output.

Features

L7726

- Red LED for POF data link
- 650 nm emission suitable for POF communications
- High-speed response: $f_c=100$ MHz Typ.
- High output power: $P_o=-1.5$ dBm ($I_F=30$ mA, $\phi 1$ mm, POF)

S7727

- Photo IC receiver for POF data link
- Monolithic structure immune from external noise
- Data rates from 4 Mbps to 156 Mbps
- P-ECL voltage conversion output
(Note: Unlike normal P-ECL output, S7727 output cannot be terminated with 50Ω .)

Applications

- Plastic optical fiber communications (FA, office machine, home automation, LAN)
- Data transmission in locations subject to high electromagnetic noise

L7726

■ Absolute maximum ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Forward current	I_F	50	mA
Power dissipation	P_{max}	250 ^{*1}	mW
Operating temperature	T_{opr}	0 to 60	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +85	$^\circ\text{C}$
Soldering	-	230 $^\circ\text{C}$, 5 s, at least 1.5 mm away from package surface	-

*1: Derate power dissipation at a rate of 1.7 mW/ $^\circ\text{C}$ above $T_a=25^\circ\text{C}$

■ Electrical and optical characteristics ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward voltage	V_F	$I_F=30$ mA	-	2.3	-	V
Peak emission wavelength	λ_p	$I_F=30$ mA	640	650	660	nm
Spectral half width (FWHM)	$\Delta\lambda$	$I_F=30$ mA	-	10	-	nm
Fiber coupled optical power	P_o	$I_F=30$ mA ^{*2}	-	-1.5	-	dBm
Cut-off frequency	f_c	$I_F=30$ mA	-	100	-	MHz

*2: Measured using a 1-meter long optical fiber (MH4001 made by Mitsubishi Rayon).

