

Peak Emission Wavelength: 1300nm

The MT51300-IR is an infrared T 1 3/4, 5mm water clear LED designed for applications requiring high power and high speed packaged with the lens optimized to produce a narrow viewing angle.

FEATURES

- > High Power Output
- > High Speed
- > Straight Leads

APPLICATIONS

- > Optical Communications
- > Safety Equipment / Automation
- > Coin / Currency Validation



Absolute Maximum Ratings (Ta=25°C)

ITEMS	SYMBOL	RATINGS	UNIT
Forward Current	IF	100	mA
Peak Forward Current*1	IFP	200	mA
Power Dissipation	PD	150	mW
Operating Temperature Range	Topr	-20 ~ +80	°C
Storage Temperature Range	Tstg	-55 ~ +100	°C
Lead Soldering Temperature*2	Tls	260	°C

*1: Test Conditions: $t_p \leq 50\mu s$, $t_p/T = 1/2$. *2: Time 5 Sec max, Position: Up to 3mm from case.

Electrical & Optical Characteristics (Ta = 25°C)

ITEMS	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage	VF	IF=20mA	--	0.85	1.0	V
Forward Voltage	VF	IF=100mA	--	0.95	--	V
Reverse Voltage	VR	IR=10μA	5	--	--	V
Radiant Power	Φe	IF=20mA	1.6	2.2	--	mW
Radiant Power	Φe	IF=100mA	--	8.5	--	mW
Radiant Intensity	le	IF=20mA	--	10	--	mW/sr
Radiant Intensity	le	IF=100mA	--	38	--	mW/sr
Peak Emission Wavelength	λp	IF=100mA	1250	1300	1350	nm
Spectral Bandwidth at 50%	Δλ _{0.5}	IF=100mA	--	70	--	nm
Viewing Angle	Θ	IF=100mA	--	25	--	deg.
Switching Time	T _R , T _F	IF=100mA	--	10	--	ns

RADIATION

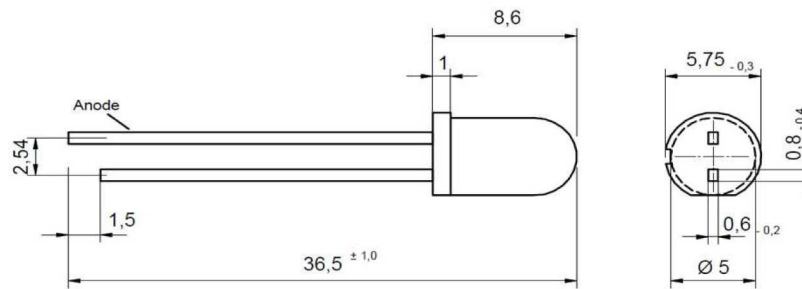
Infrared

TYPE

MQW

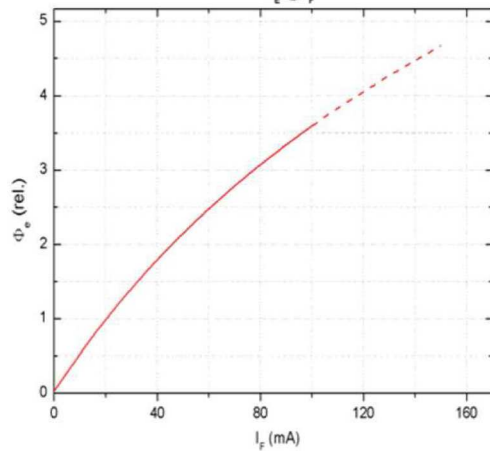
CASE

5mm Plastic Lens

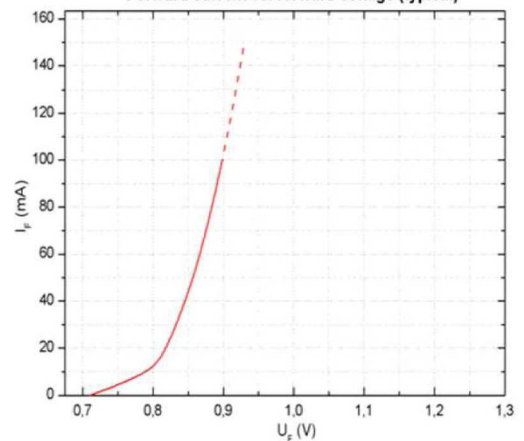


Unit: mm

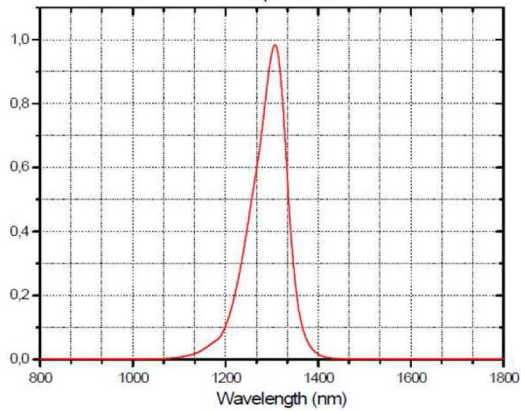
Radiant power vs. forward current (typical)
normalized to $\Phi_e @ I_F = 20 \text{ mA}$



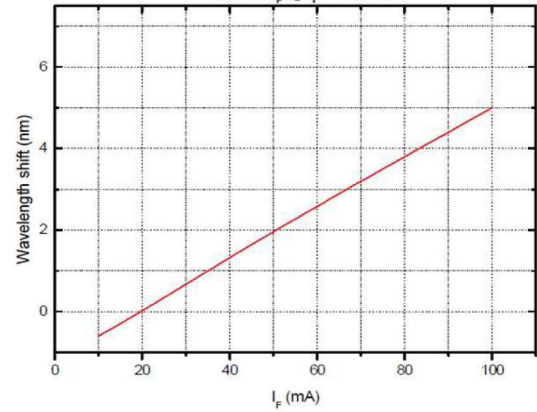
Forward current vs. forward voltage (typical)



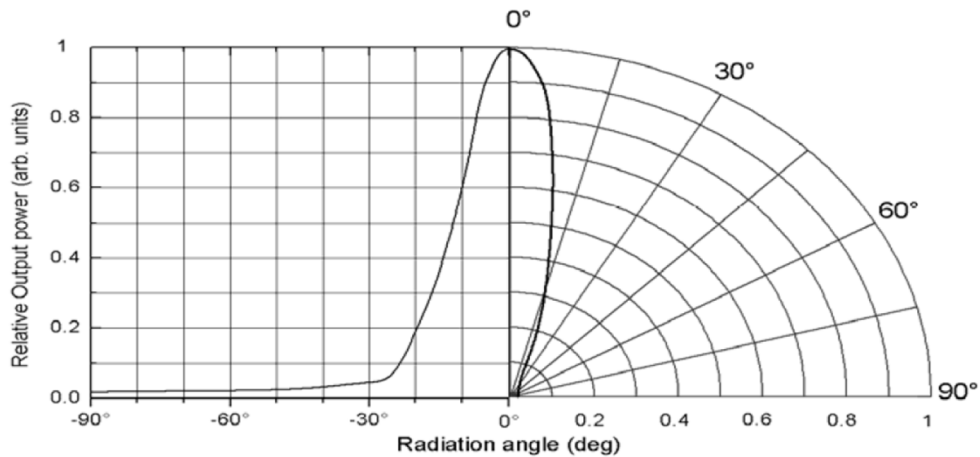
Spectral power distribution (typical)
at $I_F = 20$ mA



Typical wavelength shift vs. forward current
(rel. to λ_p @ $I_F = 20$ mA)



Typical radiant pattern



The information contained herein is subject to change without notice.

2011-08-16