

Features:

- 10.0mm Round Type LED Lamps.
- Standard brightness.
- Choice of various viewing angles.
- Diffused, Transparent and Water clear lens are available.
- Popular T-1 diameter package.
- IC compatible /Low current capability.

Part No.:

FYL-	Iv TYP.(mcd)	View Angle (2 1/2)	FYL-	Iv TYP.(mcd)	View Angle (2 1/2)
10013HD	6	60 °	10013HT	12	40 °
10013ED	40	60 °	10013ET	90	40 °
10013ED-E	40	60 °	10013ET-E	90	40 °
10013YD	30	60 °	10013YT	60	40 °
10013GD	30	60 °	10013GT	60	40 °

Len Color: C=Water Clear, D=Color Diffused, T=Color Trans

Description:

- Color Code & Chip characteristics: (Test Condition: IF=20mA)

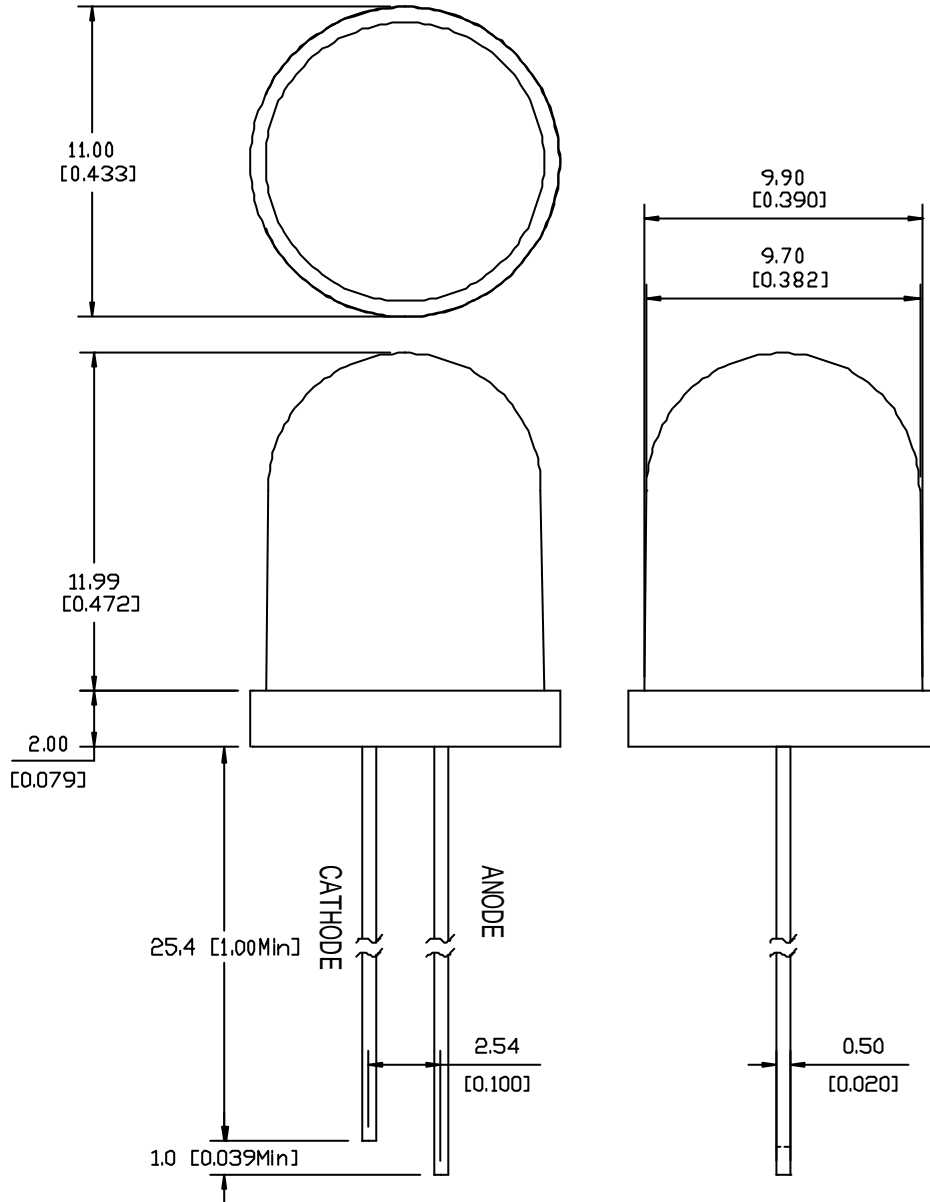
Emitting Color		Dice Material	Peak Wave Length (λ _p)	Spectral Line halfwidth (λ _{1/2})	Forward Voltage(VF) Unit:V		Luminous Intensity (Iv) Unit:ucd
					Typ	Max	
H	Red	GaP/GaP	700nm	90nm	2.25	2.60	500
E	Orange	GaAsP/GaP	635nm	35nm	2.10	2.50	2500
Y	Yellow	GaAsP/GaP	585nm	35nm	2.10	2.50	2000
G	Green	GaP/GaP	570nm	30nm	2.20	2.50	2500

Electrical-optical characteristics: (Ta=25 °C)

Parameter	Symbol	GaP(Red)	AlGaAs	GaAsP	GaP(Green)	Unit
Power Dissipation	P _{ad}	40	60	80	80	mW
Peak Forward Current *	I _{pf}	50	150	150	150	mA
Continuous Forward Current	I _{af}	15	25	30	30	mA

Notes: · * Test Condition = Duty 0.1,10KHZ

Package configuration & Internal circuit diagram:



Notes:

- All dimensions are in millimeters (inches)
- Tolerance is $\pm 0.25(0.01)$ unless otherwise noted.
- Specifications are subject to change without notice.

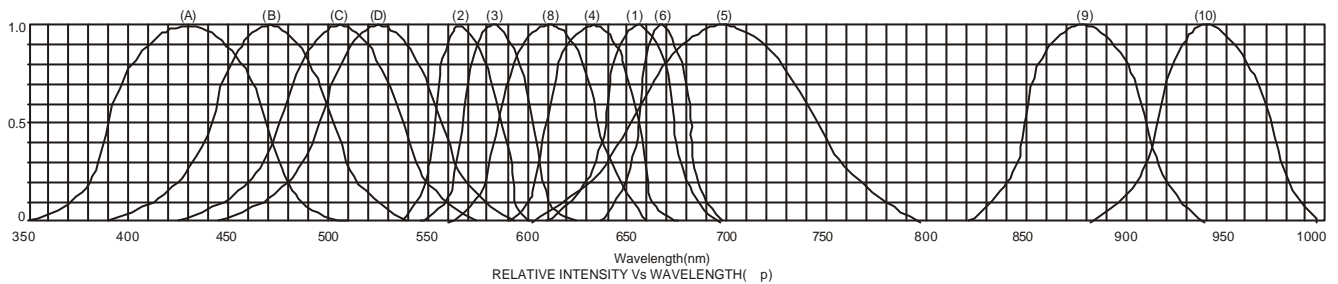
Absolute maximum ratings (Ta=25)

Reverse Voltage	5V
Reverse Current	20μA
Operating Temperature Range	-40 to+85
Storage Temperature Range	-40 to+85
Lead Solder Temperature (1.6mm(1/16")from body) 230 for 5 Seconds	

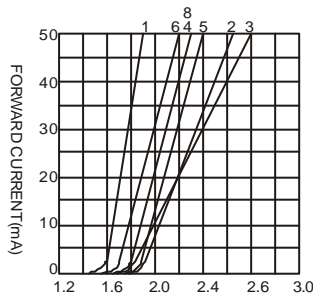
BIN code

lv(mcd)				
a(1-11)	b(9-21)	c(19-31)	d(29-41)	e(39-51)
f(49-61)	g(59-73)	h(71-87)	i(85-105)	j(103-125)
k(123-151)	l(149-181)	m(179-216)	n(214-259)	o(257-311)
p(309-373)	q(371-447)	r(445-536)	s(534-643)	t(641-772)
u(770-926)	v(924-1111)	w(1109-1333)	x(1331-1601)	y(1599-1919)
z(1917-2302)				
A(2300-2761)	B(2759-3313)	C(3311-3976)	D(3974-4771)	E(4769--5725)
F(5723-6870)	G(6868-8244)	H(8242-9892)	I(9890-11870)	J(11868-14244)
K(14242-17093)	L(17901-20511)	M(20509-24613)	N(24611-29536)	O(29534-35442)
P(35440-42531)	Q(42529-51036)	R(51034-61244)	S(61242-73492)	T(73490-88191)
U(88189-105828)	V(105826-126994)	W(126992-152392)	X(152390-182870)	Y(182868-219444)
Z(219442-263333)				
View Angle(2 1/2) °				
A(1-6)	B(4-11)	C(9-16)	D(14-21)	E(19-26)
F(24-31)	G(29-36)	H(34-41)	I(39-46)	J(44-51)
K(49-56)	L(54-61)	M(59-66)	N(64-71)	O(69-76)
P(74-81)	Q(79-86)	R(84-91)	S(89-96)	T(94-101)
U(99-106)	V(104-111)	W(109-116)	X(114-121)	Y(119-126)

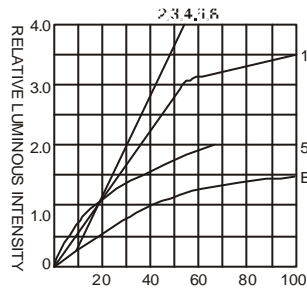
Typical electrical-optical characteristics curves:



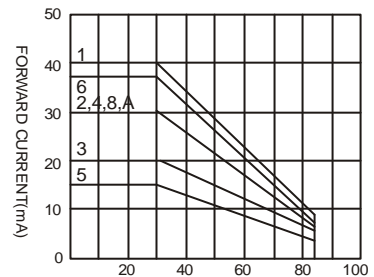
- (1) - GaAsP/GaAs 655nm/Red
- (2) - GaP 570nm/Yellow Green
- (3) - GaAsP/GaP 585nm/Yellow
- (4) - GaAsP/GaP 635nm/Orange & Hi-Eff Red
- (5) - GaP 700nm/Bright Red
- (6) - GaAlAs/GaAs 660nm/Super Red
- (8) - GaAsP/GaP 610nm/Super Red
- (9) - GaAlAs 880nm
- (10) - GaAs/GaAs & GaAlAs/GaAs 940nm
- (A) - GaN/SiC 430nm/Blue
- (B) - InGaN/SiC 470nm/Blue
- (C) - InGaN/SiC 505nm/Ultra Green
- (D) - InGaAl/SiC 525nm/Ultra Green



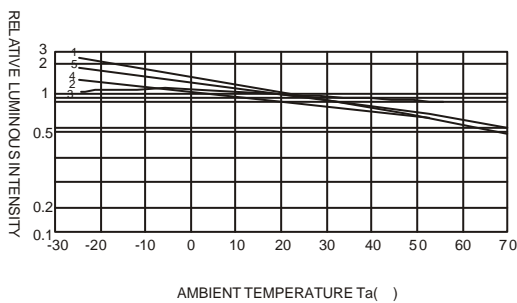
FORWARD VOLTAGE (Vf)
FORWARD CURRENT VS.
FORWARD VOLTAGE



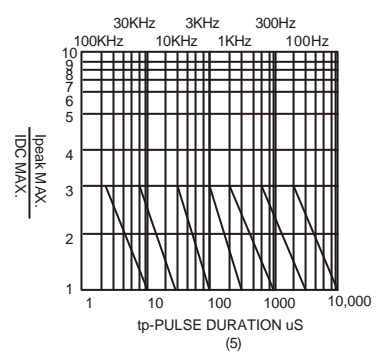
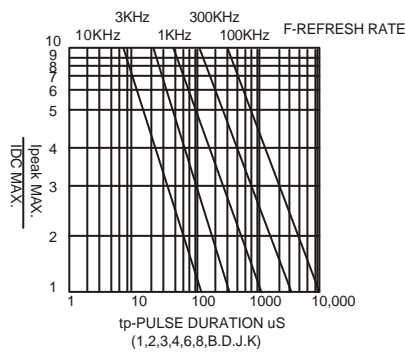
FORWARD CURRENT (mA)
RELATIVE LUMINOUS
INTENSITY VS. FORWARD
CURRENT



AMBIENT TEMPERATURE Ta()
FORWARD CURRENT VS. AMBIENT
TEMPERATURE



AMBIENT TEMPERATURE Ta()



NOTE:25 free air temperature unless otherwise specified