

■ Features:

- 2X5X7 mm Rectangular LED Lamps.
- Ultra 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 θ 1/2)	FYL-	Iv TYP.(mcd)	View Angle (2 θ 1/2)
2513SRD	50	120 °	2513UYC	800	50 °
2513LRD	80	120 °	2513YOC	800	50 °
2513SRT	100	50 °	2513UGC	250	50 °
2513LRT	160	50 °	2513PGC	1200	50 °
2513SRC	100	50 °	2513BGC	1200	50 °
2513LRC	160	50 °	2513BC	400	50 °
2513URC	300	50 °	2513UBC	600	50 °
2513UHRC	700	50 °	2513VC	70	50 °
2513UEC	700	50 °	2513WC	700	50 °
			2513UWC	1500	50 °

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

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

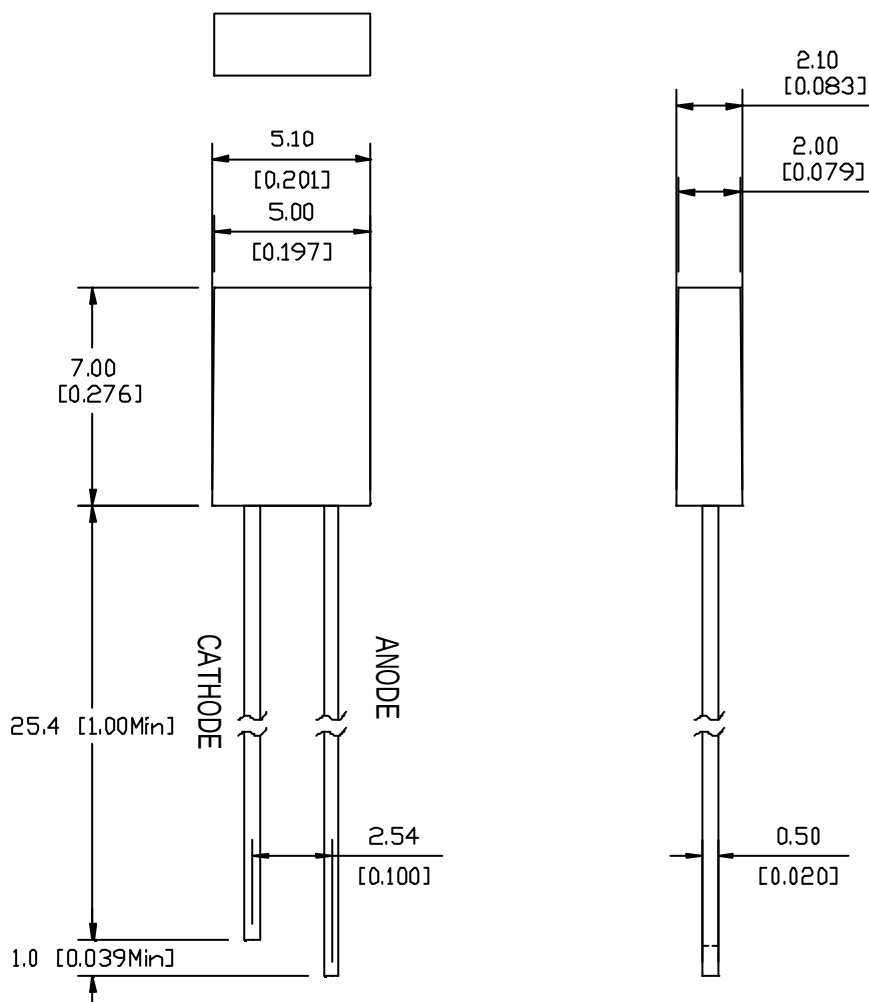
Emitting Color		Dice Material	Peak Wave Length(¹ _P) (nm)	Spectral Line halfwidth(1/2)	Forward Voltage(VF) Unit:V		Luminous Intensity (Iv) Unit:ucd
					Typ	Max	
SR	Hi Red	AlGaAs,SH	660nm	20nm	1.85	2.20	3500
LR	Super Red	AlGaAs,DH	660nm	20nm	1.85	2.20	6000
UR	Ultra Red	AlGaAs,DD H	660nm	20nm	1.95	2.20	7000
UHR	Ultra Hi Red	AlGaInP	645nm	20nm	2.10	2.50	7000
UE	Ultra Orange	AlGaInP	630nm	20nm	2.10	2.50	7000
YO	Ultra Amber	AlGaInP	610nm	20nm	2.10	2.50	7000
UY	Ultra Yellow	AlGaInP	590nm	20nm	2.10	2.50	7000
UG	Ultra Green	AlGaInP	574nm	30nm	2.20	2.50	5000
PG	Ultra Pure Green	AlGaInP	525nm	36nm	3.80	4.50	5000
BG	Ultra Blue Green	InGaN	505nm	30nm	3.80	4.50	5000
B	Blue	InGaN	430nm	30nm	3.80	4.50	5000
UB	Ultra Blue	InGaN	470nm	30nm	3.50	4.20	7000
V	UV	InGaN	405nm	-	3.80	4.50	-
W	White	InGaN	-	-	3.80	4.50	5000
UW	Ultra White	InGaN	-	-	3.50	4.20	7000

■ Electrical-optical characteristics: (Ta=25)

Parameter	Symbol	AlGaAs	GaAsP	AlGaInP	InGaN	Unit
Power Dissipation	P_{ad}	60	80	75	120	mW
Peak Forward Current *	I_{pf}	150	150	150	100	mA
Continuous Forward Current	I_{af}	25	30	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.

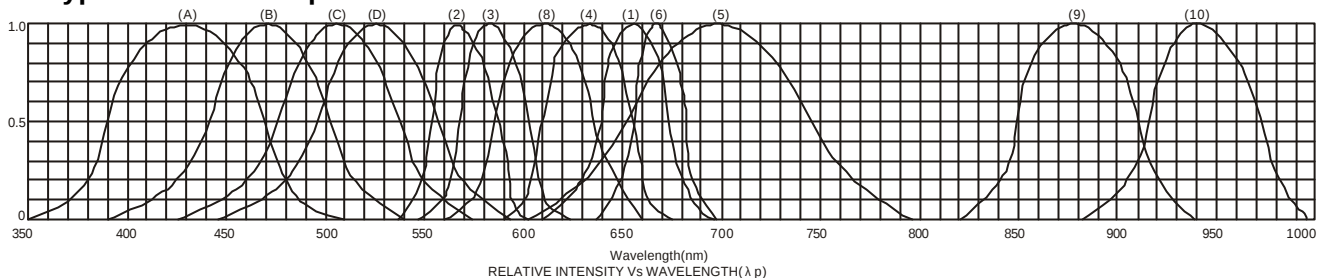
■ Absolute maximum ratings (Ta=25)

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	

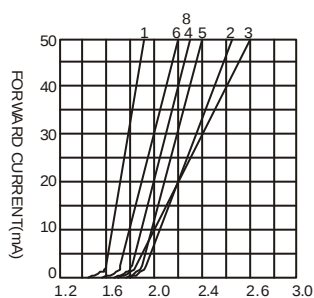
■ BIN code

Iv(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 θ 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)

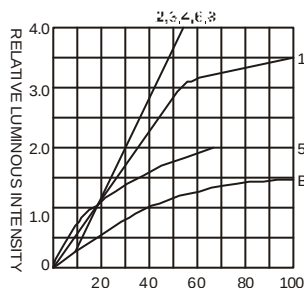
■ Typical electrical-optical characteristics curves:



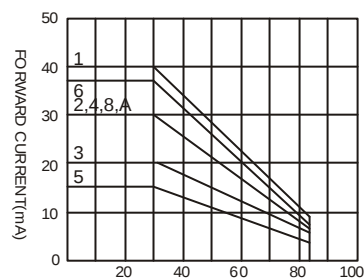
- | | |
|---|--------------------------------------|
| (1) - GaAsP/GaAs 655nm/Red | (9) - GaAlAs 880nm |
| (2) - GaP 570nm/Yellow Green | (10) - GaAs/GaAs & GaAlAs/GaAs 940nm |
| (3) - GaAsP/GaP 585nm/Yellow | (A) - GaN/SiC 430nm/Blue |
| (4) - GaAsP/GaP 635nm/Orange & Hi-Eff Red | (B) - InGaN/SiC 470nm/Blue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



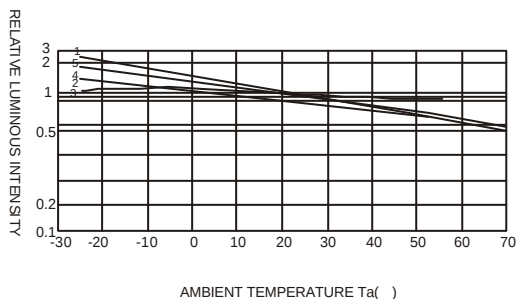
FORWARD VOLTAGE (Vf)
FORWARD CURRENT VS.
FORWARD VOLTAGE



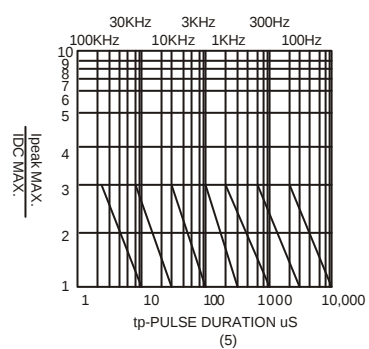
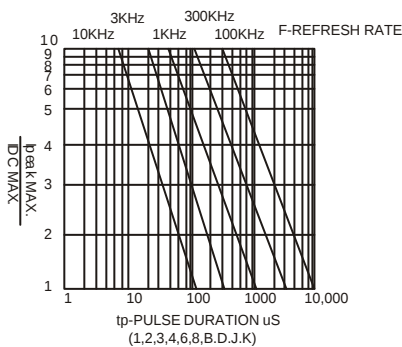
FORWARD CURRENT (mA)
RELATIVE LUMINOUS
INTENSITY VS. FORWARD
CURRENT



AMBIENT TEMPERATURE Ta(°)
FORWARD CURRENT VS. AMBIENT
TEMPERATURE



AMBIENT TEMPERATURE Ta(°)



NOTE:25 free air temperature unless otherwise specified