

## KLT-155454x, LD TO can (Aspheric lens)

### Description

KLT-155454x series are long wavelength Fabry-Perot LD sources in TO-56 package with asp lens cap  
 KLT-155454x series consist of an InGaAsP strained multi-quantum well(MQW) laser diode(LD) and an InGaAs PIN-PD for output monitoring. They operate at 1550 nm wavelength band and with various data rates from 155Mbps upto 1.25 Gbps.  
 They are suitable for fabricating pigtailed LD source, TOSA(transmitter optical sub assembly), and bi-directional module.

### FEATURES

High performance strained MQW InGaAsP LD with BH(buried hetero-junction) structure  
 Hermetically sealed TO-56 package with aspheric lenses cap  
 High reliability and environmental endurance  
 Operating wavelength of 1.55 $\mu$ m band  
 Wide operating temperature range from -40 to 85  
 Various data rates from 155Mbps upto 1.25Gbps

### APPLICATIONS

SONET OC-1~ OC-48/SDH STM-1 ~ STM-16  
 1.25 Mbps, 622Mbps, and 1.25Gbps for ATM and Ethernet  
 Suitable for fabrication of coaxial LD module, TOSA, and Bi-Di module

### Absolute Maximum Ratings

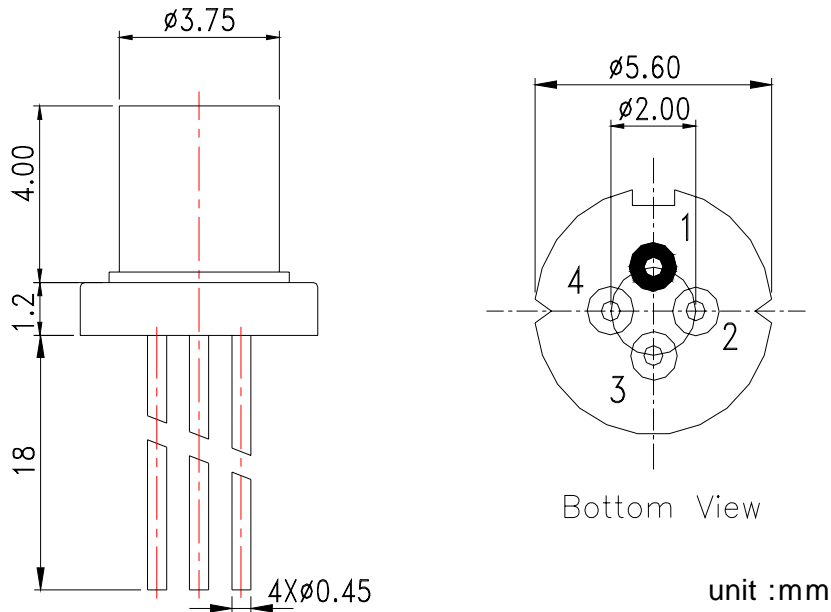
Parameter	Symbol	Min	Max	unit
Operating temperature	$T_{op}$	-40	85	
Storage temperature	$T_{stg}$	-40	85	
Peak laser output power	$P_o$		18	mW
Peak reverse laser voltage	$V_{rl}$		2	V
Peak forward monitor PD current	$I_{fp}$		2	mA
Peak reverse monitor PD voltage	$V_{rp}$		10	V

### Optical and Electrical Characteristics (KLT-155454x, Top = 25 otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Conditions
Operating temperature	$T_{op}$	-40		85		
Threshold current	$I_{th}$	4	8	20	mA	CW, kink free
Operating current	$I_{op}$		35	42		CW, $P_o=12mW$
Slope efficiency	$\eta$	0.2	0.3			CW, $P_o=12mW$
Operating voltage	$V_{op}$		1.1	1.5	V	at rated $P_o = 12mW$
Center wavelength	$\lambda_c$	1530	1550	1570	nm	at rated $P_o = 12mW$
RMS spectral width	$\Delta\lambda$		2	5	nm	at rated $P_o = 12mW$
Optical rise and fall time	$t_r$			0.5	ns	20 to 80 %, $I_b= I_{th}, P_o = 12mW$
	$t_f$			0.5	ns	80 to 20 %, $I_b= I_{th}, P_o = 12mW$
Monitor PD current	$I_m$	0.1	0.3		mA	at rated $P_o = 12mW, V_{rp}=1V$
Monitor PD dark current	$I_d$			1	$\mu A$	$V_{rp} = 10V$
Monitor PD capacitance	$C_m$		10	20	pF	$V_{rp} = 10V, 1MHz$

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Outline Drawing

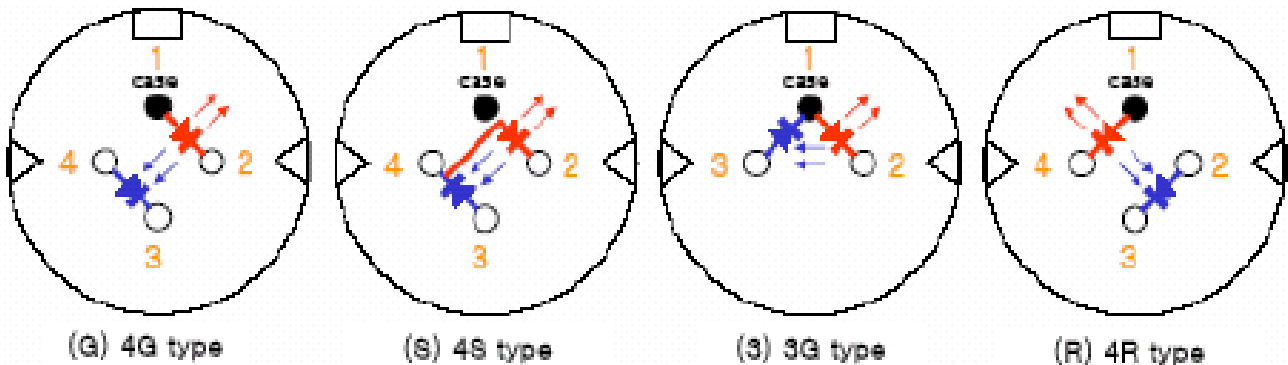


Pin connections

Pin config.	4S	4G
pin no. 1	Case ground	LD anode/case ground
pin no. 2	LD cathode	LD cathode
pin no. 3	m-PD anode	Monitor PD cathode
pin no. 4	LD anode/m-PD cathode	Monitor PD anode

Ordering information

KLT	Device Type	Wavelength	Data Rate	Operating Temp.	Package type	Pin Config.
Kodenshi LD TO	1 : FP(BH)	31 : 1310 nm	0 : CW	0 : 0~50	1 : 1.5 mm ball lens	S : 4S type
	2 : DFB	55 : 1550 nm	3 : 622 Mbps	1 : 0~70	2 : 2.0mm ball lens	G : 4G type
	3 : CWDM-DFB	49 : 1490 nm	4 : 1.25 Gbps	2 : -20~70	3 : flat window	R : 4R type
	4 : AR-LD	xx:1xx0nm $\pm 3$ nm(CWDM)	5 : 2.5 Gbps	3 : 0~85	4 : aspheric lens	3: 3G
	5 : DWDM-DFB	yB(band):O,E,S,C,L,NI,N	6 : 5 Gbps	4 : -20~85		
	6 : LED	zz:15xx $\pm 4$ nm(DWDM)		5 : -40~85		



Pin configuration of LD TO Can Package (Bottom View)