LASER DIODE

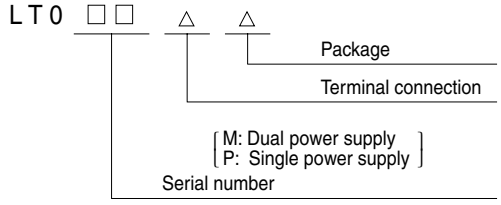
☆New product
★Under development

■ LASER DIODES

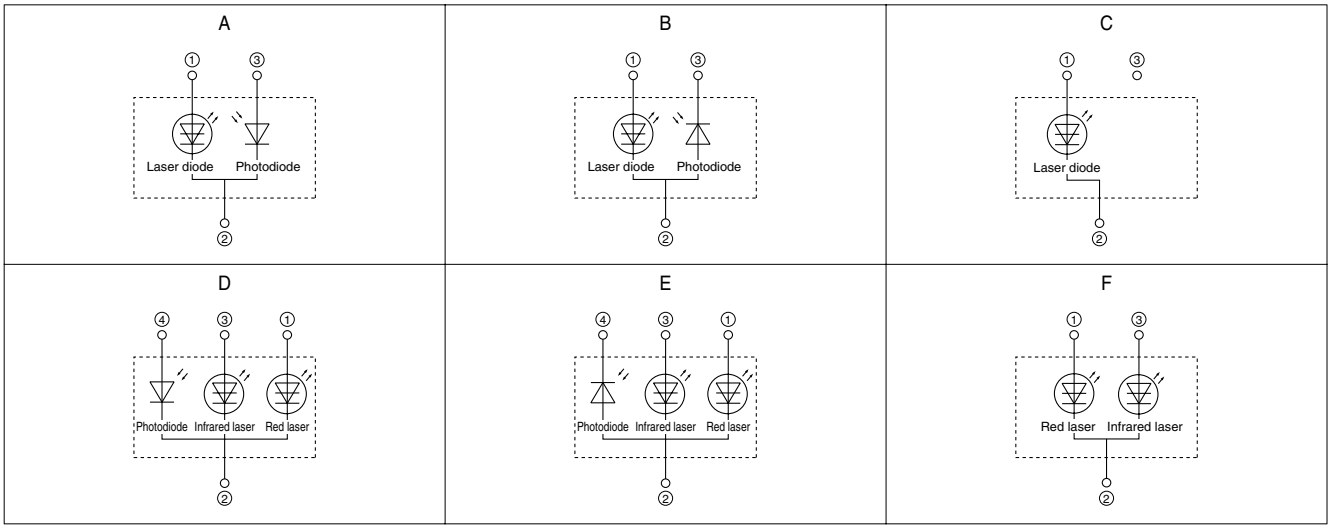
(Tc = 25°C)

Model No.	Wave-length (nm)	Optical power output (mW) MAX.		Features	Applications	Terminal connec-tions
		CW	Pulse			
GH06507B2A	650 band	7	–	Single mode, operating temperature: 80°C MAX.	DVD, DVD-ROM	A
GH06507B2B				Single mode, single power supply, operating temperature: 80°C MAX.		B
GH06507S2A				Single mode, self-oscillation type, operating temperature: 70°C MAX.		A
★GH16507S2A				Resin stem (frame type), self-oscillation type, operating temperature: 70°C MAX.		A
☆GH16507A2A				Resin stem (frame type), operating temperature: 70°C MAX.		A
☆GH16507A2AU				Resin stem (frame type), operating temperature: 40°C MAX.	Bar code scanner	A
GH06510B2A		10	–	Single mode, operating temperature: 70°C MAX.	DVD, DVD-ROM	A
GH06510B2B				Single mode, single power supply, operating temperature: 70°C MAX.	DVD, DVD-ROM	B
LT051PS	635 band	30	50	Single mode, single power supply, operating temperature: 50°C MAX.	DVD-R/RW/RAM	B
☆GH06535B2B	650 band	35	50	Single mode, single power supply, operating temperature: 70°C MAX.	DVD-R/RW/RAM	B
LT052MS				Single mode, operating temperature: 70°C MAX.	DVD-RAM	A
LT052PS				Single mode, single power supply, operating temperature: 70°C MAX.		B
GH06550B2B		50	70	Single mode, single power supply, operating temperature: 70°C MAX.	DVD-R/RW/RAM (×2 writing)	B
GH20707A2A	780/650 band	7/7	–/–	Dual wavelength type (red and infrared lasers in a single package) operating temperature: 70°C MAX.	DVD/DVD-ROM	D
GH20707A2B						E
☆GH20707S2A				Dual wavelength type (red and infrared lasers in a single package) self-oscillation type, operating temperature: 70°C MAX.		D
☆GH20707S2B						E
☆GH20795A6C		95/7	135/–	Dual wavelength type (red and high power infrared lasers in a single package), D-cut package	Slim combination type (CD-R/RW + DVD-ROM)	F
GH17805B2AS	780 band	5	–	Resin stem (frame type), operating temperature: 70°C MAX.	CD-ROM, CD-Audio	A
GH17805B2BS				Resin stem (frame type), operating temperature: 70°C MAX.		B
☆GH17805D2AS				Resin stem (frame type), Low current supply, operating temperature: 70°C MAX.		A
GH07885C2C	780 band	85	120	High power, operating temperature: 70°C MAX. (pulse drive)	CD-R/RW (×12 writing)	C
GH07885D2C		85	120	High power (narrow radiation angle), operating temperature: 70°C MAX. (pulse drive), Low current supply		C
★GH07885E2C		85	120			C
GH07895A2C		95	135	High power (narrow radiation angle), operating temperature: 70°C MAX. (pulse drive)	CD-R/RW (×16 writing)	C
GH07895A6C		95	135	High power (narrow radiation angle), D-cut package, operating temperature: 70°C MAX. (pulse drive)	CD-R/RW (×16 writing), for slim drive	C
☆GH0781HA2C		110	160	High power (narrow radiation angle), operating temperature: 70°C MAX. (pulse drive)	CD-R/RW (×24 writing)	C
★GH0781JA2C*1		(120)	(180)		CD-R/RW (×32 writing)	C

• Numbering System



• Terminal Connections



Internet address for Electronic Components Group
http://sharp-world.com/ecg/

Notice
In the absence of confirmation by device specification sheets, SHARP takes no responsibility for any defects that may occur in equipment using any SHARP devices shown in catalogs, data books, etc. Contact SHARP in order to obtain the latest device specification sheets before using any SHARP device.

LASER DIODE

☆New product
★Under development

• New Numbering System of Laser Diodes

GH 0 65 07 A 2 A □□

- Semiconductor laser diode
- Category (0: Laser diode, 1: Frame type laser diode, 2: Dual wavelength laser)
- Wavelength (63: 635 nm band, 65: 650 nm band, 78: 780 nm band, etc.)
- Optical power output (07: 7 mW, etc.)
- Chip characteristics (A: Standard, B: Low current 1, C: Low current 2, D: Low current 3, S: Self-oscillation type)
- Package (1: ø9, 2: ø5.6, 3: 4.8t, 4: 3.6t, 5: 3.0t etc.)
- Terminal connection (A: Dual power supply, B: Single power supply, C: No monitor, etc.)
- Supplimental code

◆ Model Configurations

(Unit: mm)

Wavelength (nm) TYP.	Optical power output (mW) MAX.	Package			
		  GH20707A2A/B GH20707S2A/B Four lead ø5.6 mm Metal stem	  GH07895A6C GH20795A6C ø5.6 mm Metal stem (D-cut type)	 ø5.6 mm (Resin stem)	 ø5.6 mm (Resin stem)
650 band	7	GH06507B2A			
		GH06507B2B			
		GH06507S2A			
					☆GH16507A2A
					★GH16507S2A
					☆GH16507A2AU
	10	GH06510B2A			
		GH06510B2B			
635 band	30	LT051PS			
650 band	35	☆GH06535B2B			
		LT052MS			
		LT052PS			
	50	GH06550B2B			
780 band	5			GH17805B2AS	
				GH17805B2BS	
				☆GH17805D2AS	
780 band	85	GH07885C2C			
		GH07885D2C			
		★GH07885E2C			
	95	GH07895A2C			
			GH07895A6C		
	110	☆GH0781HA2C*1			
	(120)	★GH0781JA2C*1			
780/650 band	7/7	GH20707A2A			
		GH20707A2B			
		☆GH20707S2A			
		☆GH20707S2B			
	95/7		☆GH20795A6C		

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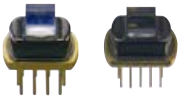
☆New product
★Under development

■ HOLOGRAM LASERS

◆Lineup

Application	Features	Package		
		 3mm resin stem	 4.8mm resin stem	 4.8mm metal stem
DVD/DVD-ROM	×6 read only, with self-oscillation chip	☆ GH6D305S5A※		
	For DVD car navigation system			★ GH5DA07B3A※
	×10 read only	GH6D407B5A※		
CD-Audio	General purpose type	GH6C005B5A	GH6C005B3A	GH5C105D3A
		GH6C005B5B	GH6C005B3B	GH5C105D3B
	CD-RW read only		☆ GH6CR05D3A※	
	Low voltage (3V) operating		☆ GH6CD05B3A※	
	Low voltage (3V) operating, low current supply		★ GH6CD05D3A※	
CD-ROM	×40 read only	GH6C605B5A※	GH6C605B3A※	
		GH6C605B5B※	GH6C605B3B※	
	×40 read only, built-in RF amplifier	GH7C605B5A※	GH7C605B3A※	
		GH7C605B5B※	GH7C605B3B※	
CD-R/RW	×12 writable			GH5R385C3C※
	×8 writable, sample-hold system	☆ GH6R385B5C5※		GH5R385C3C5※
	×16 writable			GH5R495A3C※
	×24 writable			★ GH5R41HA3C※*1
	×16 writable, sample-hold system			★ GH5R41HA3C※*1
	×32 writable			★ GH5R413A3C※*1
MD	Playback only	GH6M005A5B		
	Recording / playback	GH6M035A5B		

※ Built-in OPIC type *1 DPD: Differential Phase Detection

☆New product
★Under development

◆Laser diodes

These specifications were measured without hologram elements and are listed as reference values. (Tc = 25°C)

Model No.	Wavelength (nm)	Optical power output* (mW) MAX.	Pulse optical output* (mW) MAX.	Threshold current (mA) TYP.	Operating current (mA) TYP.	Operating voltage (V) TYP.	Beam	Power supply	Applications
☆ GH6D305S5A	650 band	4.5	–	(65)	(72)*1	2.5*1	1 beam	Dual power supply	DVD/DVD-ROM
★ GH5DA07B3A		6.3		30	40*1				
GH6D407B5A				27	36*2	2.2*2	3 beam		
GH6C005B5A	780 band	4.3	–	25	36*3	1.85*3		Dual power supply	CD-Audio
GH6C005B5B								Single power supply	
GH6C005B3A								Dual power supply	
GH6C005B3B								Single power supply	
GH5C105D3A				13	18*4	1.8*4		Dual power supply	
GH5C105D3B								Single power supply	
GH5C105B3A				25	36*4	1.75*4		Dual power supply	
☆ GH6CR05D3A				13	17*5	1.9*5		Dual power supply	
☆ GH6CD05B3A				25	36*3	1.85*3		Dual power supply	
★ GH6CD05D3A				13	19*3	1.9*3		Dual power supply	
GH6C605B5A				25	36*3	1.85*3		Dual power supply	CD-ROM
GH6C605B5B								Single power supply	
GH6C605B3A								Dual power supply	
GH6C605B3B								Single power supply	
GH7C605B5A								Dual power supply	
GH7C605B5B								Single power supply	
GH5R385C3C		76	108	30	127*6	2.1*6		–	CD-R/RW
GH5R385C3C5									
☆ GH6R385B5C5									
GH5R495A3C		85	121	30	120*7	2.2*7			
★ GH5R41HA3C*10		101	144	30	130*8	2.2*8			
★ GH5RA1HA3C*10									
★ GH5R413A3C*10		(117)	(162)	32	144*8	2.2*8			
GH6M005A5B		4.5	–	20	28*4	1.9*4		Single power supply	MD
GH6M035A5B		31.5	–	15	50*9	1.9*9			

* Output power from hologram laser
*1 PH: 2.85 mW *2 PH: 4.75 mW *3 PH: 3.0 mW *4 PH: 2.7 mW *5 PH: 2.5 mW
*6 PH: 85 mW *7 PH: 80 mW *8 PH: 100 mW *9 PH: 27 mW

◆Light-detectors for signal detection*

For CD-ROM Drive (x40) <GH6C605B5A/B>

(Tc = 25°C)

Item	Conditions	Rated value
RF output amplitude	P_H = 3.0 mW*	TYP. 1.0 V
Focus error signal output amplitude	With RF amplitude of 0.55 V	TYP. 0.35 V
Radial error signal output amplitude		TYP. 0.12 V
Focus error signal offsetting	–	MAX. ±0.7 µm
OPIC operation voltage	–	TYP. 5.0 V
OPIC response frequency	Vcc = 5 V, –3 dB	MIN. 40 MHz

* Optical system is specified separately.
P_H = Hologram element emission intensity

◆Light-detectors for signal detection*

For DVD-ROM Drive (x10) <GH6D407B5A/B>

(Tc = 25°C)

Item	Conditions	Rated value
RF output amplitude	P_H = 4.75 mW*	TYP. 1.05 V
Focus error signal output amplitude	With RF amplitude of 1.0 V	TYP. 0.66 V
Focus error signal offsetting	With RF amplitude of 1.0 V	MAX. ±0.5 µm
OPIC operation voltage	–	TYP. 5.0 V
OPIC response frequency	Vcc = 5 V, –3 dB	MIN. 60 MHz

* Optical system is specified separately.
P_H = Hologram element emission intensity

◆Light-detectors for signal detection*

For CD-R/RW Drive (x24 writable) <GH5R41HA3C>

(Tc = 25°C)

Item	Conditions	Rated value
RF output amplitude	Outgoing radiation with collimating lens at 1.5 mW at high gain	TYP. 0.94 V
Focus error signal output amplitude		TYP. 0.59 V
Radial error signal output amplitude		TYP. 0.19 V
Focus error signal offsetting		MAX. ±0.7 µm
OPIC operation voltage	–	TYP. 5.0 V
OPIC response frequency	Vcc = 5 V, –3 dB	MIN. 45 MHz

* Optical system is specified separately.

Refer to specification sheets for details of each model.

• New Numbering System of Hologram Lasers

GH 5 C 1 05 D 3 A □□

- Semiconductor laser diode
- Category (5: Hologram laser, 6: Resin stem hologram laser)
- Application (C: CD/CD-ROM, M: MD, R: CD-R/RW, D: DVD/DVD-ROM, etc.)
- Response speed (0: Standard, 1: x2 speed, 2: x4 speed, etc.)
- Optical power output (05: 5 mW, etc.)
- Chip characteristics (A: Standard, B: Low current 1, C: Low current 2, D: Low current 3, S: Self-oscillation type)
- Package (1: ø9, 2: ø5.6, 3: 4.8t, 4: 3.6t, 5: 3.0t, etc.)
- Terminal connection (A: Dual power supply, B: Single power supply, C: Without monitor)
- Supplimental code