

Laser Diodes

Laser Diodes

Blue Laser Diode

Page 175



PL 450B

Pulsed laser diodes

Page 175



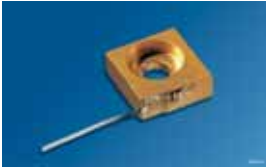
SPL PLxx



SPL LLxx

CW laser diodes (single emitter)

Page 175



SPL CGxx



SPL 2Fxx



SPL TD85-C

Unmounted laser bars

Page 176



SPL BGxx / SPL BKxx



SPL BXxx



SPL BSxx

Pulsed laser dies

Page 176



SPL DLxx

Safety Advice

Depending on the mode of operation, these devices emit highly concentrated non visible infrared light which can be hazardous to the human eye. Products which incorporate these devices have to follow the safety precautions given in IEC 60825-1 "Safety of laser products".

Informationen zur Augensicherheit

Je nach Betriebsart emittieren diese Bauteile hochkonzentrierte, nicht sichtbare Infrarot-Strahlung, die gefährlich für das menschliche Auge sein kann. Produkte, die diese Bauteile enthalten, müssen gemäß den Sicherheitsrichtlinien der IEC-Norm 60825-1 behandelt werden.

Type Designation

Bezeichnungsschema

SPL	Type	Package	Subtype	Chip Type/Opt. Output	Wavelength	
					nm (Center)	
	P	Plastic package	L	Pulsed laser	81	808
	L	Lead frame based package	G	25 emitters, 200/400 µm, 50% Fill factor	85	850
	C	C-mount carrier	K	25 emitters, 200/400 µm, 50% Fill factor	90	905
	2	sealed housing (TO- 220)	X	19 emitters, 150/500 µm, 30% Fill factor	91	915
	B	Bar, unmounted	S	75 emitters, 82% Fill factor	94	940
	D	Die, chip	F	Fiber connector (FC)	98	975
	T	TO-56	D	Single emitter with 80µm aperture		


Note:

cw = continuous wave




qcw = quasi continuous wave

xx in the type name (e.g. SPL PLxx) refers to the wavelength



Blue Laser Diode

Package	Type	$\lambda_{\text{peak typ}}$ [nm]	Opt. peak power	V_F	Measurement cond.	Beam divergence (FWHM) $\Theta_{\perp} \times \Theta_{\parallel}$ [°]	Package Features	Ordering Code	Package Fig.
			P_{opt} [W]	[V]					
	PL 450B	450	0.08	5.8	$I_F = 100$ mA	$21^\circ \times 7^\circ$	T038 iCut package	Q65111A0518	1


Pulsed laser diodes

Package	Type	Package Outline	$\lambda_{\text{peak typ}}$ [nm]	Opt. peak power P_{opt} [W]	Beam divergence (FWHM) $\Theta_{\perp} \times \Theta_{\parallel}$ [°]	Package Features	Ordering Code	Package Fig.
	SPL PL85	Plastic housing	850	10	$25^\circ \times 11^\circ$	5 mm radial plastic package, pulse width < 100 ns	Q62702P1759	2
	SPL PL90_0		905	4			Q62702P5270	
	SPL PL90			25			Q62702P1760	
	SPL PL90_3			75			Q62702P5353	
	SPL PL90_0-B	Plastic housing	905	4	$25^\circ \times 11^\circ$	5 mm radial plastic package, pulse width < 100 ns bended leads	Q65110A8790	3
	SPL LL85	Plastic housing with integrated driver	850	14	$30^\circ \times 15^\circ$	Integrated laser driver circuit, plastic package, pulse width < 50 ns	Q62702P3558	4
	SPL LL90_3		905	70			Q65110A1009	5




CW laser diodes (single emitter)

Package	Type	Package Outline	$\lambda_{\text{peak typ}}$ [nm]	Opt. power P_{opt} [W]	Beam divergence (FWHM) $\Theta_{\perp} \times \Theta_{\parallel}$ [°]	Package Features	Ordering Code	Package Fig.
	SPL CG81-2S	Laser on sub-mount	808	2	$38^\circ \times 7^\circ$	Open heat sink (C-type)	Q65110A1832	6
	SPL CG94-2S		940				Q65110A1833	
	SPL TD85-C	TO-56	845	0.45	$40^\circ \times 6^\circ$	Hermetically sealed metal package	Q65111A0232	7


CW laser diodes (single emitter)

Package	Type	Package Outline	$\lambda_{\text{peak typ}}$ [nm]	Opt. power P_{opt} [W]	Fiber diameter \varnothing [μm]	Numerical aperture NA	Package Features	Ordering Code	Package Fig.
	SPL 2F81-2S	TO-220 FC (fiber coupled)	808	1.5	200	0.22	TO-220 package, FC-receptacle for efficient fiber coupling, thermistor for temperature and wavelength control	Q65110A1722	8
	SPL 2F81-2S-105			1.2	105			Q65110A8451	
	SPL 2F94-2S		940	1.5	200			Q65110A1828	

Unmounted laser bars

Package	Type	Package Outline	$\lambda_{\text{peak typ}}$ [nm]	$P_{\text{opt typ}}$ [W]	Beam divergence full angle $(1/e^2)$ $\Theta_{\perp} \times \Theta_{\parallel}$ [$^{\circ}$]	Package Features	Chip size [mm x mm]	Ordering Code	Package Fig.
	SPL BG81-9S	unmounted laser bar	808	50	$65^{\circ} \times 9^{\circ}$	50% filling factor, 25 emitters, emitter width 200 μm , emitter pitch 400 μm	10 x 0.9	Q62702P5503	
	SPL BK81-12S							Q65110A8104	
	SPL BK91-12S		Q65110A8801						
	SPL BK94-12S			Q65110A8820					
	SPL BK98-12S		Q65110A8878						
	SPL BK81-20H			10 x 2			Q65110A8725		
	SPL BK91-20HT		Q65110A8594						
	SPL BK94-20HT		Q65110A8595						
SPL BK98-20HT	Q65110A8596								
	SPL BX81-2S	unmounted laser bar	808	40	$65^{\circ} \times 9^{\circ}$	30% filling factor, 19 emitters, emitter width 150 μm , emitter pitch 500 μm	9.5 x 1.2	Q62702P5510	
	SPL BX94-2S		Q62702P5512						
	SPL BX98-2S		Q65110A0740						
	SPL BS81-6	unmounted laser bar	808	100	$70^{\circ} \times 12^{\circ}$	82.5% filling factor, 75 emitters, emitter width 110 μm , emitter pitch 130 μm for qcw applications	10 x 0.6	Q62702P1719	
	SPL BS81-9S			150	$65^{\circ} \times 9^{\circ}$		10 x 0.9	Q65110A2676	
	SPL BS94-2S		940	200			10 x 1.2	Q65110A6958	

Pulsed laser dies

Package	Type	Package Outline	$\lambda_{\text{peak typ}}$ [nm]	Opt. peak power P_{opt} [W]	Beam divergence (FWHM) $\Theta_{\perp} \times \Theta_{\parallel}$ [$^{\circ}$]	Package Features	Chip size [mm x mm]	Ordering Code	Package Fig.
	SPL DL90_3	unmounted laser chip	905	75	$25^{\circ} \times 11^{\circ}$	emitter width 200 μm	0.6 x 0.6	Q65110A2591	

Dimensions in mm (inch)

Figure 1: PL 450B

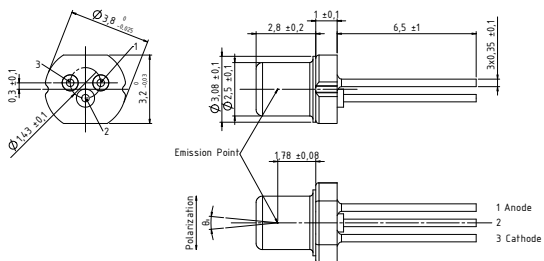


Figure 2: SPL PLxx (without PL90_0-B)

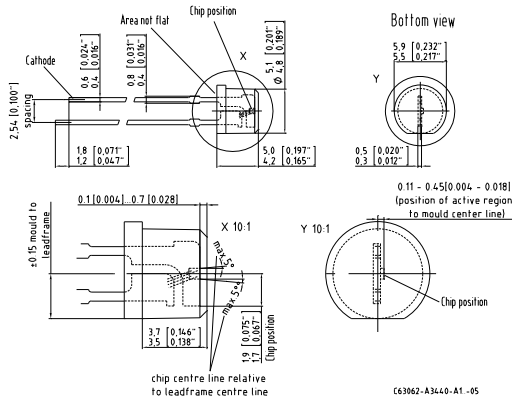


Figure 3: SPL PL90_0-B

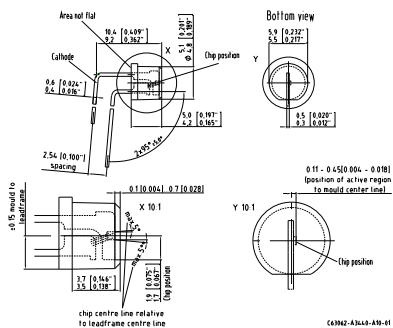
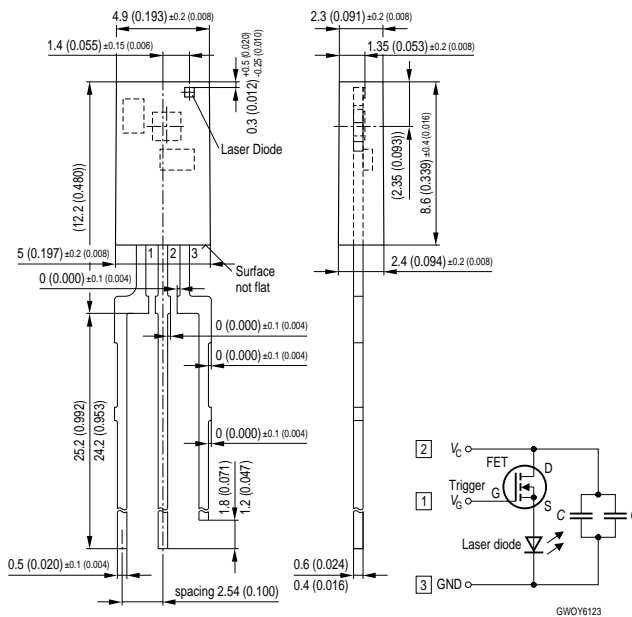


Figure 4: SPL LL85



Dimensions in mm (inch)

Figure 5: SPL LL90, SPL LL90_3

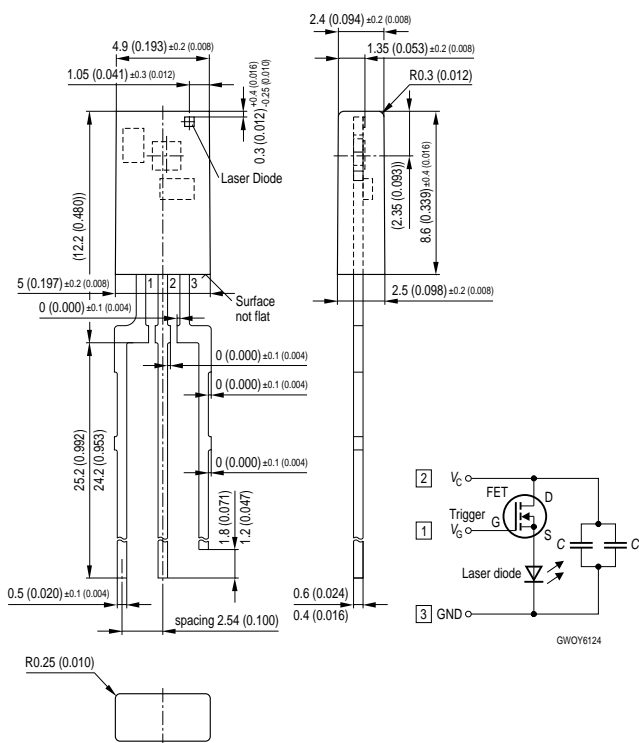


Figure 6: SPL CGxx

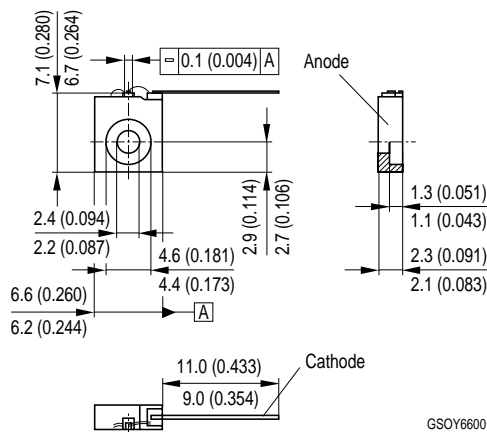


Figure 7: SPL TD85-C

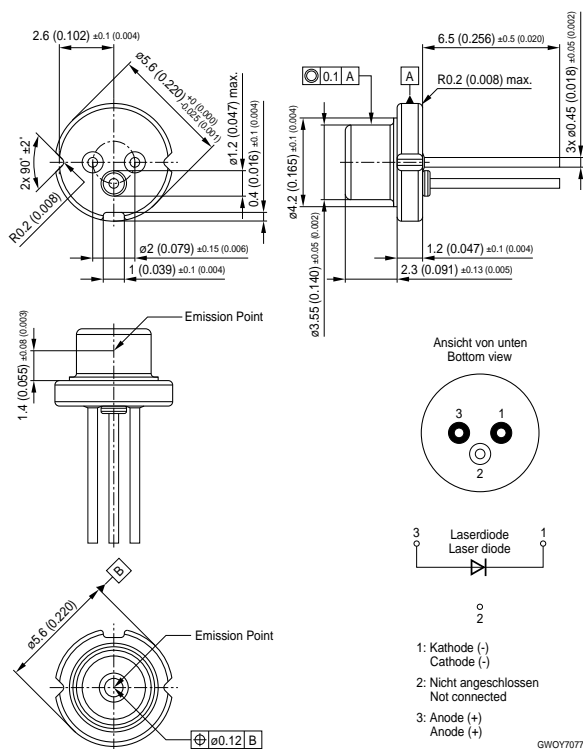


Figure 8: SPL 2Fxx

