
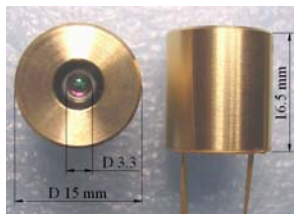
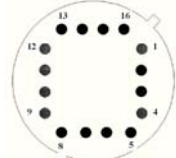
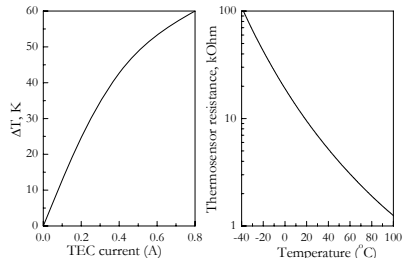
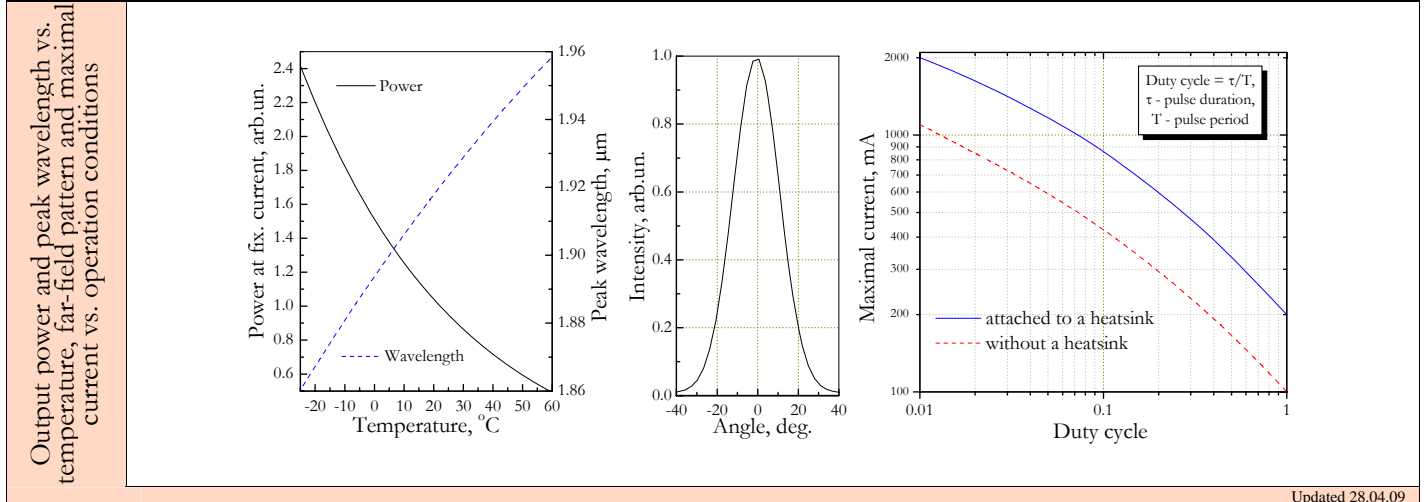
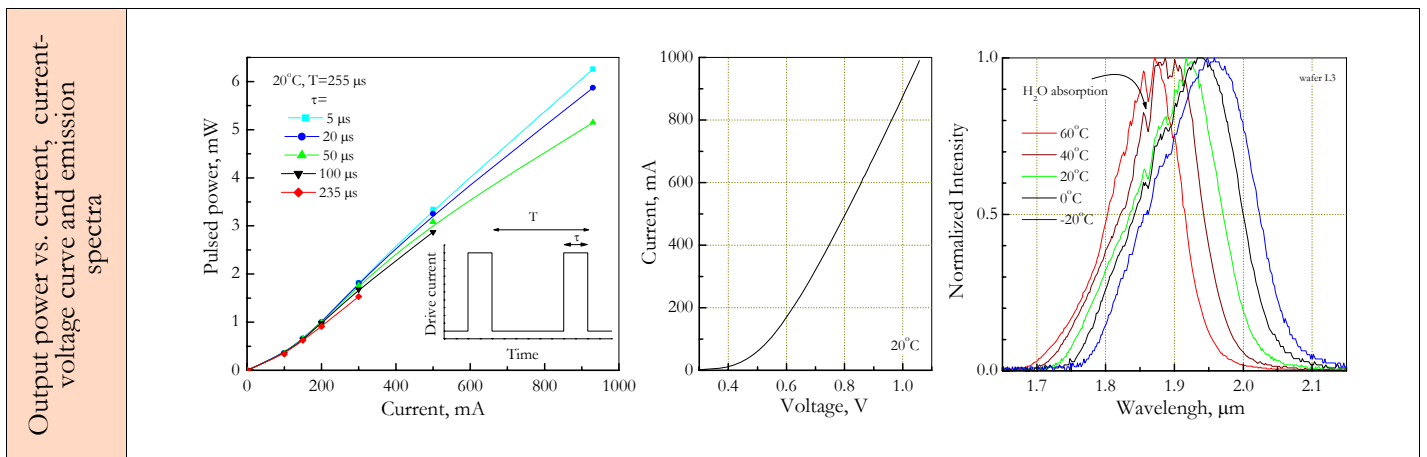


Optically Immersed 1.9 μm LED in heat-sink optimized housing				LED19Sr	
Peak wavelength	λ_{max}	μm	1.95 \pm 0.05		
Pulsed power at I=1 A	P_{pulsed}	mW	6.0 \pm 1.2		
CW power at I=200 mA	P_{CW}	mW	1.0 \pm 0.2		
Switching time	τ	ns	\leq 20		

Code	Thread	Emission size, mm	Lens material	Far-field pattern FWHM, deg.	Optical axis deviation, deg	Operation (storage) conditions, °C
LED19Sr	M5 \times 0.5	\varnothing 3.3	Si	\leq 20	\leq 7	-25 \div +60 (+80)
LED19TO8TEC			Si lens and quartz window			


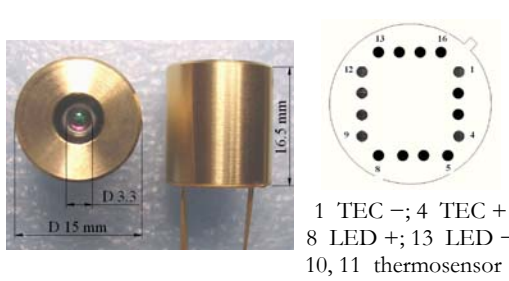
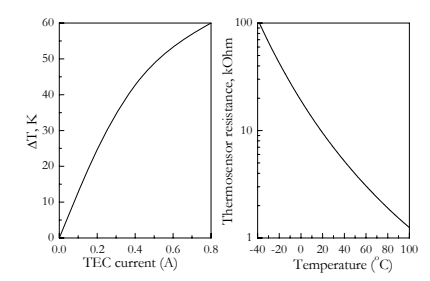
	LED19Sr	LED19TO8TEC
Product view		  1 TEC -; 4 TEC + 8 LED +; 13 LED - 10, 11 thermosensor
		

- ✓ All devices are stressed at 80°C (I=0) and I=200 mA (CW, 20°C) for 10 hrs before final test and shipping to a customer.
- ✓ Beam divergence of the LEDs is small and thus we recommend adjusting LED position regarding to the detector system before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22°C) and LED attached to a heatsink. Heatsink is important for normal LED operation especially in the CW mode.
- ✓ Polarity: see Product view. In near future two color wires will be used.

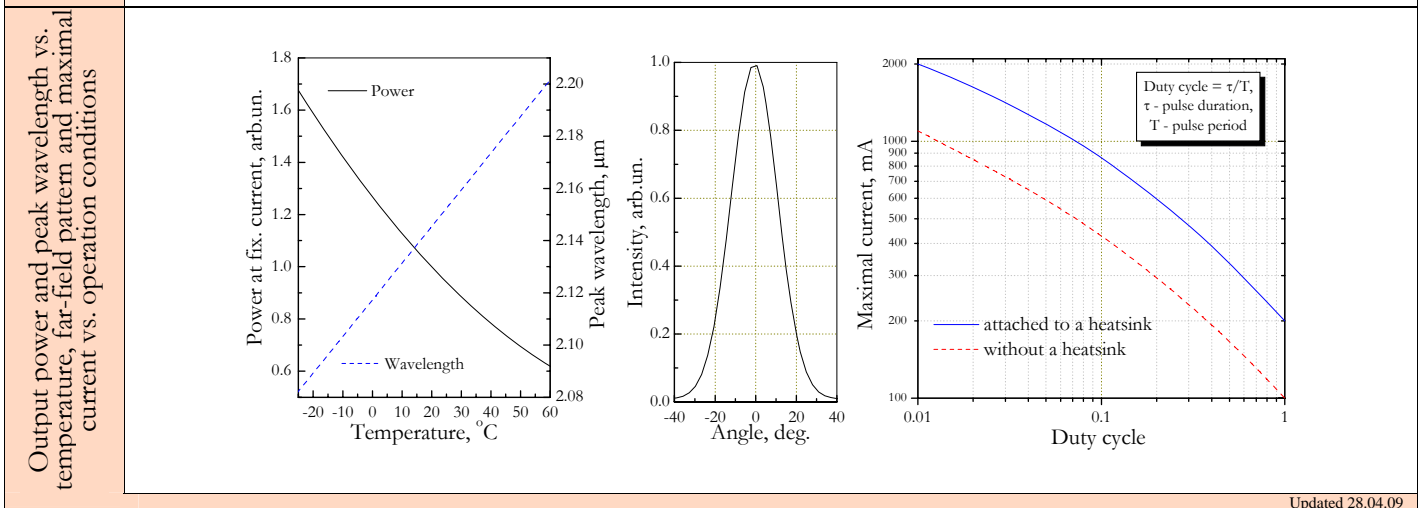
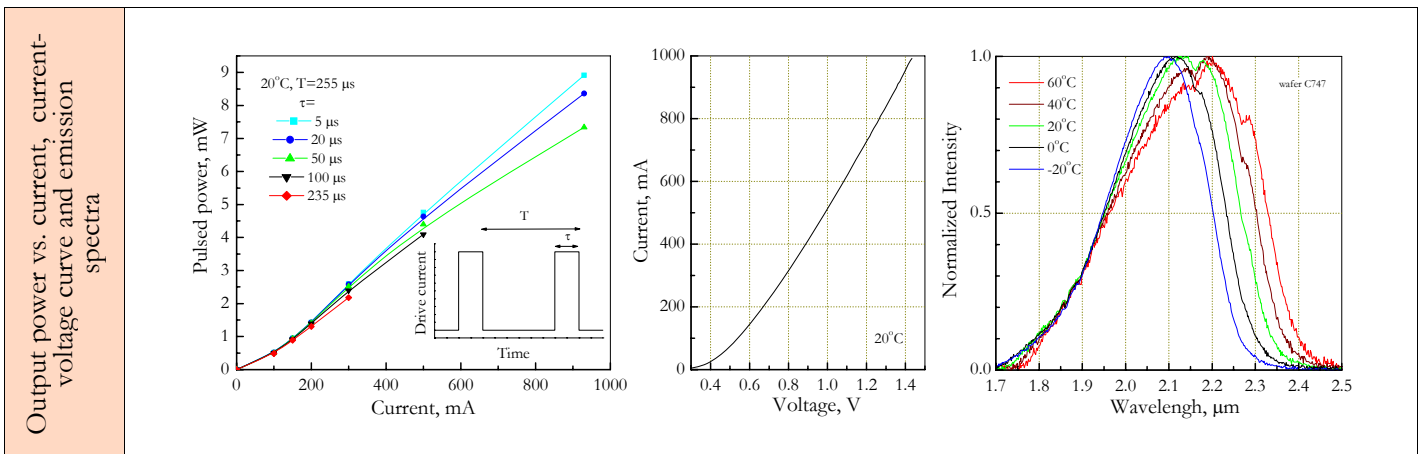


Optically Immersed 2.15 μm LED in heat-sink optimized housing				LED21Sr
Peak wavelength	λ_{max}	μm		2.15 \pm 0.05
Pulsed power at I=1 A	P_{pulsed}	mW		9.0 \pm 2.0
CW power at I=200 mA	P_{CW}	mW		1.3 \pm 0.25
Switching time	τ	ns		\leq 20

Code	Thread	Emission size, mm	Lens material	Far-field pattern FWHM, deg.	Optical axis deviation, deg	Operation (storage) conditions, $^{\circ}\text{C}$
LED21Sr	M5 \times 0.5	\varnothing 3.3	Si	\leq 20	\leq 7	-25 \div +60 (+80)
LED21TO8TEC			Si lens and quartz window			


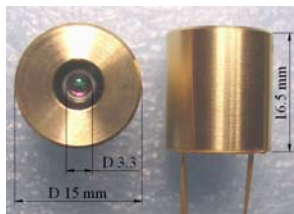
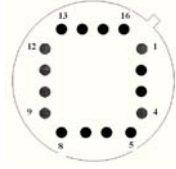
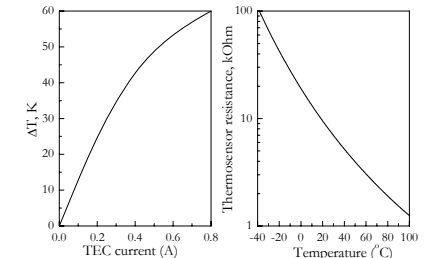
	LED21Sr	LED21TO8TEC
Product view		 <p>1 TEC -; 4 TEC + 8 LED +; 13 LED - 10, 11 thermosensor</p> 

- ✓ All devices are stressed at 80 $^{\circ}\text{C}$ (I=0) and I=200 mA (CW, 20 $^{\circ}\text{C}$) for 10 hrs before final test and shipping to a customer.
- ✓ Beam divergence of the LEDs is small and thus we recommend adjusting LED position regarding to the detector system before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22 $^{\circ}\text{C}$) and LED attached to a heatsink. Heatsink is important for normal LED operation especially in the CW mode.
- ✓ Polarity: see Product view. In near future two color wires will be used.

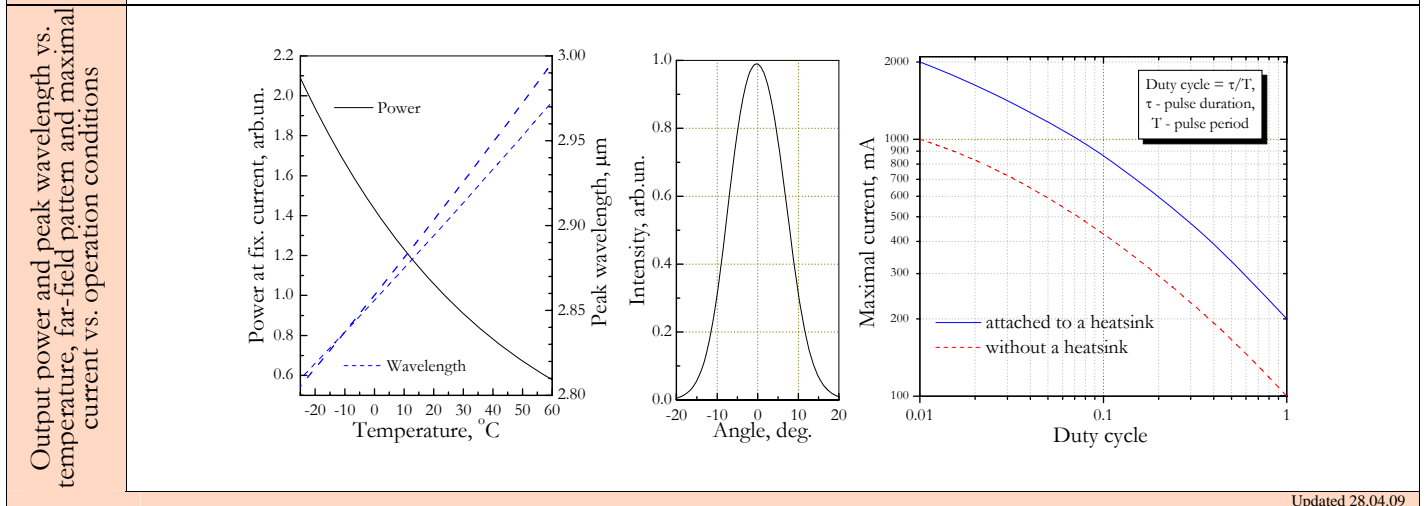
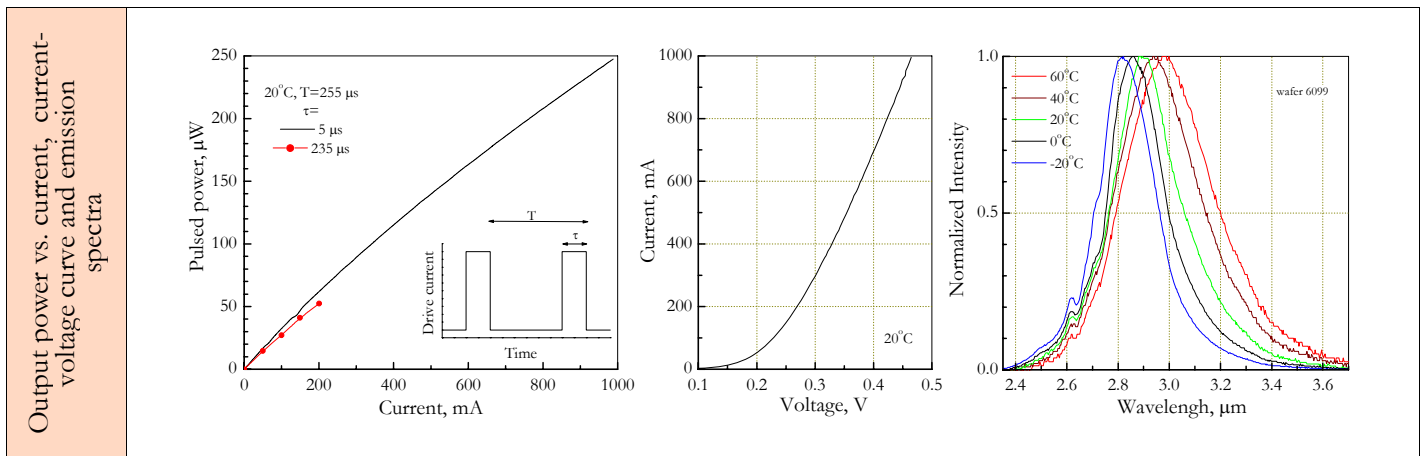


Optically Immersed 3.0 μm LED in heat-sink optimized housing				LED30Sr	
Peak wavelength	λ_{max}	μm	2.95 \pm 0.05		
Pulsed power at I=1 A	P_{pulsed}	μW	250 \pm 50		
CW power at I=200 mA	P_{CW}	μW	50 \pm 10		
Switching time	τ	ns	\leq 20		

Code	Thread	Emission size, mm	Lens material	Far-field pattern FWHM, deg.	Optical axis deviation, deg	Operation (storage) conditions, °C
LED30Sr	M5 \times 0.5	\varnothing 3.3	Si	\leq 20	\leq 7	-25 \div +60 (+80)
LED30TO8TEC			Si lens and quartz window			


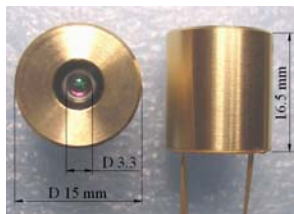
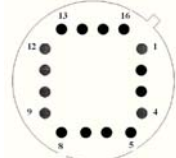
	LED30Sr	LED30TO8TEC
Product view		  1 TEC -; 4 TEC + 8 LED +; 13 LED - 10, 11 thermosensor
		

- ✓ All devices are stressed at 80°C (I=0) and I=200 mA (CW, 20°C) for 10 hrs before final test and shipping to a customer.
- ✓ Beam divergence of the LEDs is small and thus we recommend adjusting LED position regarding to the detector system before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22°C) and LED attached to a heatsink. Heatsink is important for normal LED operation especially in the CW mode.
- ✓ Polarity: see Product view. In near future two color wires will be used.



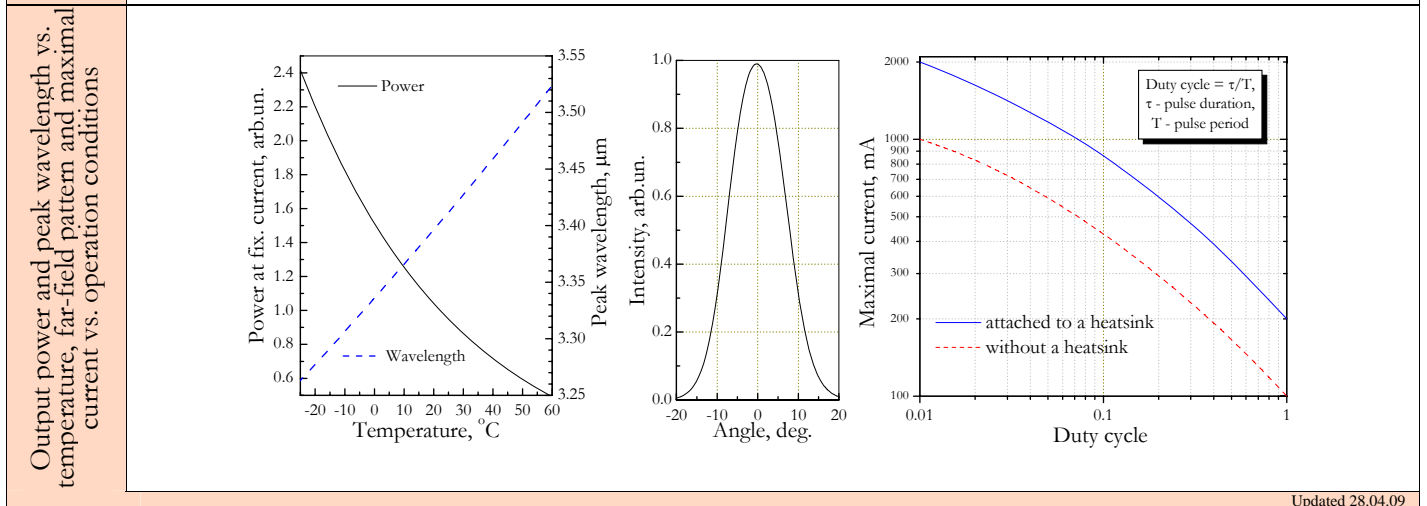
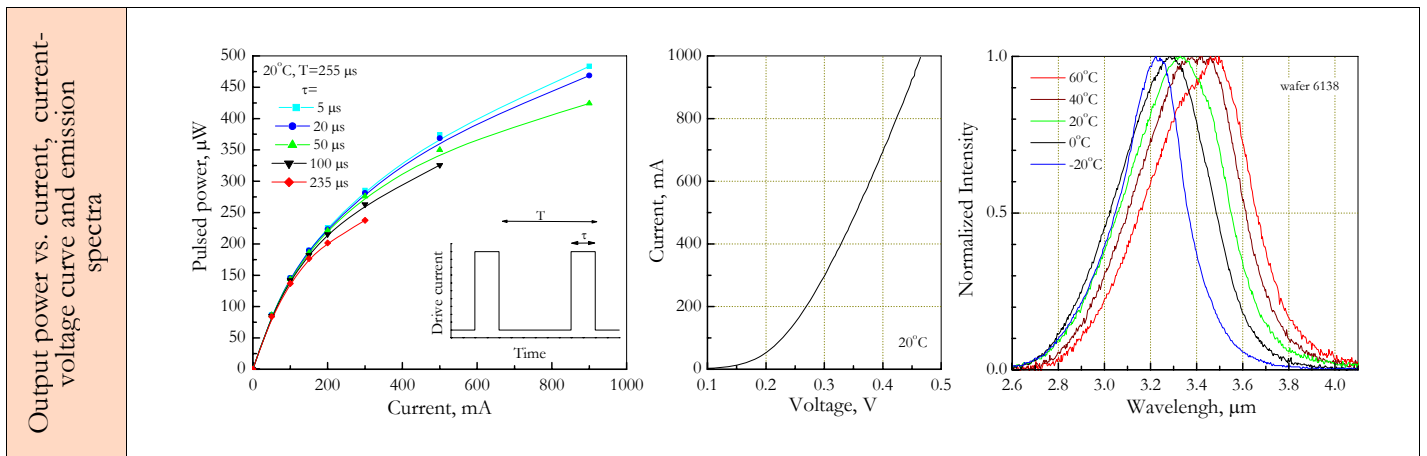
Optically Immersed 3.4 μm LED in heat-sink optimized housing				LED34Sr	
Peak wavelength	λ_{max}	μm	3.4±0.05		
Pulsed power at I=1 A	P_{pulsed}	μW	500±100		
CW power at I=200 mA	P_{CW}	μW	200±40		
Switching time	τ	ns	≤20		

Code	Thread	Emission size, mm	Lens material	Far-field pattern FWHM, deg.	Optical axis deviation, deg	Operation (storage) conditions, °C
LED34Sr	M5×0.5	Ø 3.3	Si	≤20	≤7	-25÷+60 (+80)
LED34TO8TEC			Si lens and quartz window			

Product view	LED34Sr	LED34TO8TEC	
			


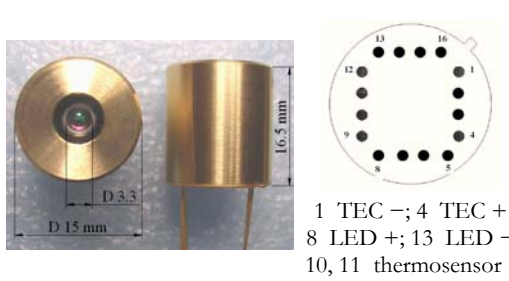
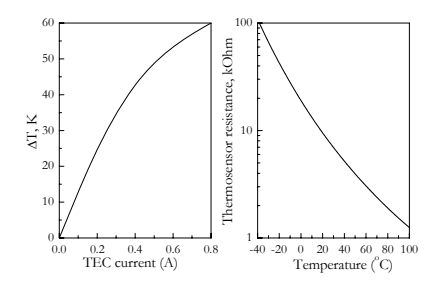
1 TEC -; 4 TEC +
8 LED +; 13 LED -
10, 11 thermosensor

- ✓ All devices are stressed at 80°C (I=0) and I=200 mA (CW, 20°C) for 10 hrs before final test and shipping to a customer.
- ✓ Beam divergence of the LEDs is small and thus we recommend adjusting LED position regarding to the detector system before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22°C) and LED attached to a heatsink. Heatsink is important for normal LED operation especially in the CW mode.
- ✓ Polarity: see Product view. In near future two color wires will be used.

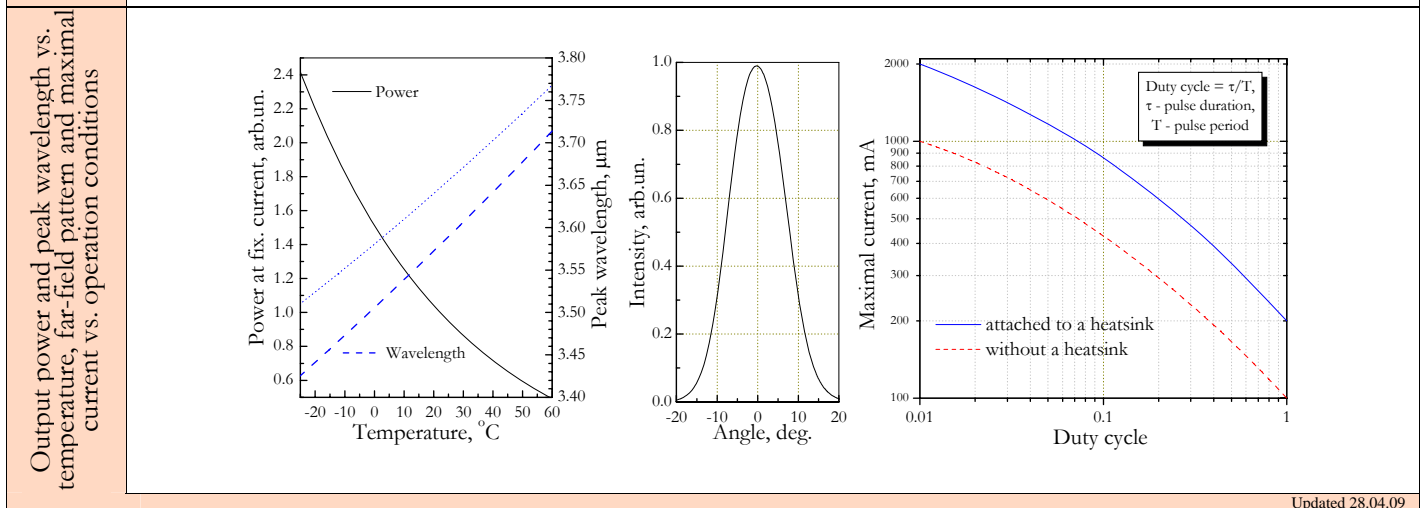
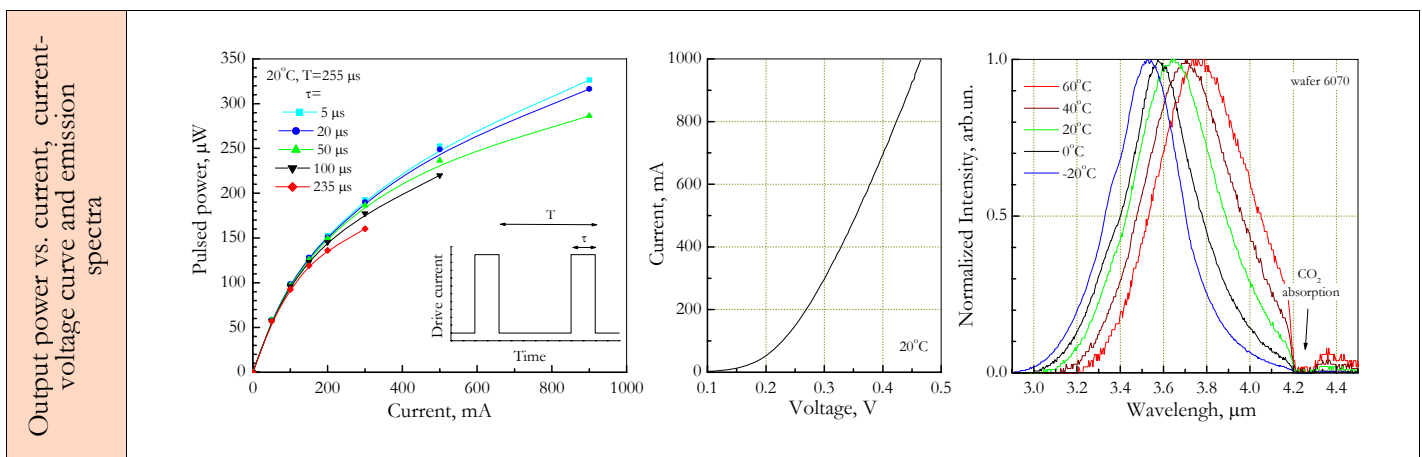


Optically Immersed 3.6 μm LED in heat-sink optimized housing				LED36Sr
Peak wavelength	λ_{max}	μm		3.65 \pm 0.05
Pulsed power at I=1 A	P_{pulsed}	μW		350 \pm 70
CW power at I=200 mA	P_{CW}	μW		135 \pm 25
Switching time	τ	ns		\leq 20

Code	Thread	Emission size, mm	Lens material	Far-field pattern FWHM, deg.	Optical axis deviation, deg	Operation (storage) conditions, $^{\circ}\text{C}$
LED36Sr	M5 \times 0.5	\varnothing 3.3	Si	\leq 20	\leq 7	-25 \div +60 (+80)
LED36TO8TEC			Si lens and quartz window			


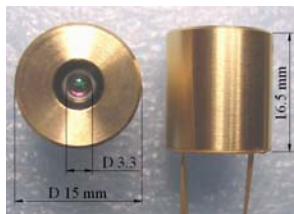
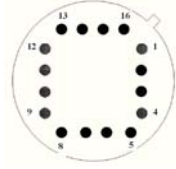
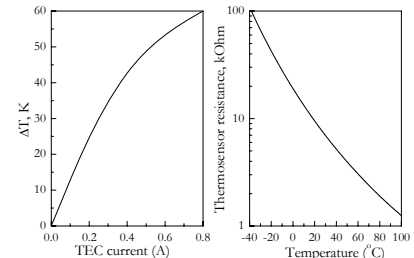
	LED36Sr	LED36TO8TEC
Product view		 <p>1 TEC -; 4 TEC + 8 LED +; 13 LED - 10, 11 thermosensor</p> 

- ✓ All devices are stressed at 80 $^{\circ}\text{C}$ (I=0) and I=200 mA (CW, 20 $^{\circ}\text{C}$) for 10 hrs before final test and shipping to a customer.
- ✓ Beam divergence of the LEDs is small and thus we recommend adjusting LED position regarding to the detector system before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22 $^{\circ}\text{C}$) and LED attached to a heatsink. Heatsink is important for normal LED operation especially in the CW mode.
- ✓ Polarity: see Product view. In near future two color wires will be used.

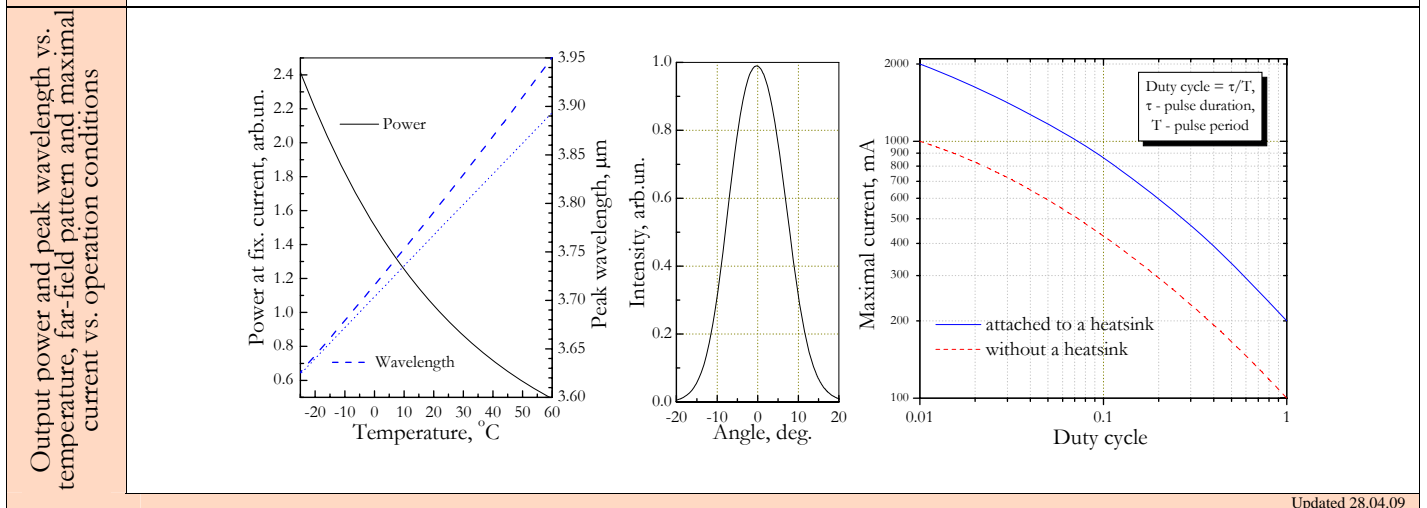
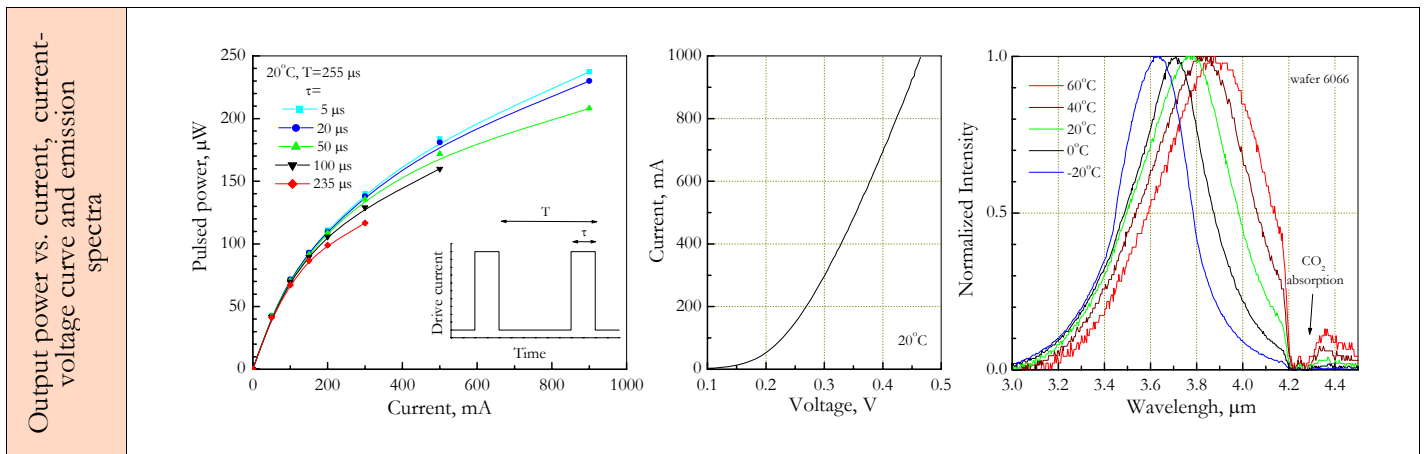


Optically Immersed 3.8 μm LED in heat-sink optimized housing				LED38Sr	
Peak wavelength	λ_{max}	μm	3.85 \pm 0.05		
Pulsed power at I=1 A	P_{pulsed}	μW	250 \pm 50		
CW power at I=200 mA	P_{CW}	μW	100 \pm 20		
Switching time	τ	ns	\leq 20		

Code	Thread	Emission size, mm	Lens material	Far-field pattern FWHM, deg.	Optical axis deviation, deg	Operation (storage) conditions, °C
LED38Sr	M5 \times 0.5	\varnothing 3.3	Si	\leq 20	\leq 7	-25 \div +60 (+80)
LED38TO8TEC			Si lens and quartz window			


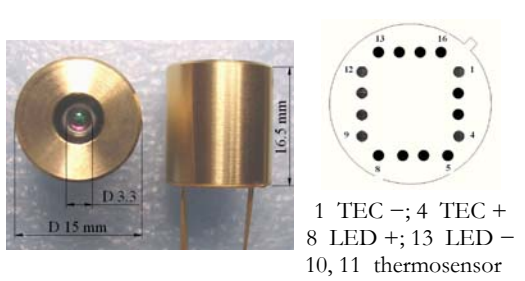
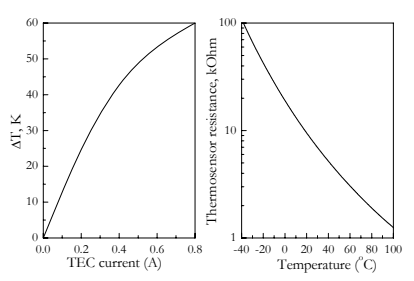
	LED38Sr	LED38TO8TEC
Product view		  <p>1 TEC -; 4 TEC + 8 LED +; 13 LED - 10, 11 thermosensor</p> 

- ✓ All devices are stressed at 80°C (I=0) and I=200 mA (CW, 20°C) for 10 hrs before final test and shipping to a customer.
- ✓ Beam divergence of the LEDs is small and thus we recommend adjusting LED position regarding to the detector system before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22°C) and LED attached to a heatsink. Heatsink is important for normal LED operation especially in the CW mode.
- ✓ Polarity: see Product view. In near future two color wires will be used.

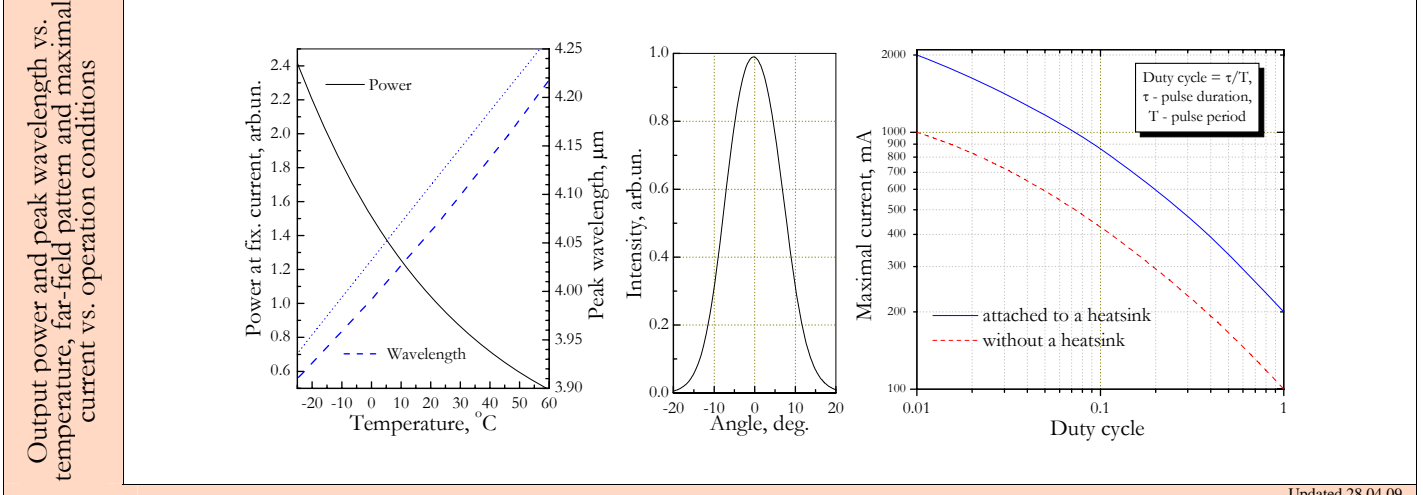
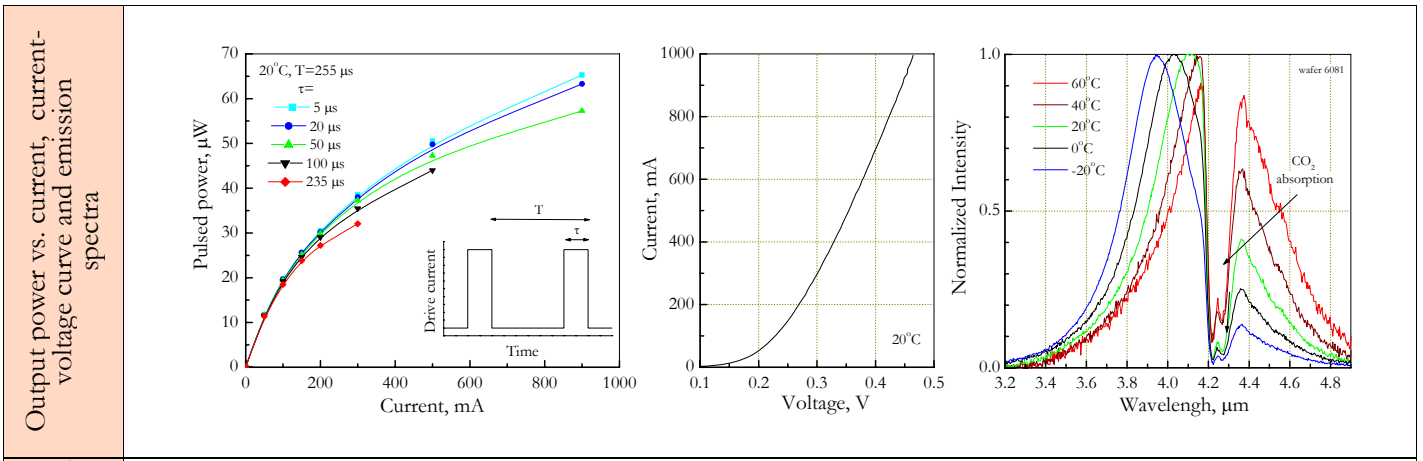


Optically Immersed 4.2 μm LED in heat-sink optimized housing				LED42Sr	
Peak wavelength	λ_{max}	μm	4.2 \pm 0.1		
Pulsed power at I=1 A	P_{pulsed}	μW	70 \pm 15		
CW power at I=200 mA	P_{CW}	μW	25 \pm 5		
Switching time	τ	ns	\leq 20		

Code	Thread	Emission size, mm	Lens material	Far-field pattern FWHM, deg.	Optical axis deviation, deg	Operation (storage) conditions, $^{\circ}\text{C}$
LED42Sr	M5 \times 0.5	\varnothing 3.3	Si	\leq 20	\leq 7	-25 \div +60 (+80)
LED42TO8TEC			Si lens and quartz window			


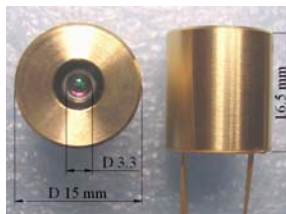
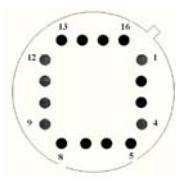
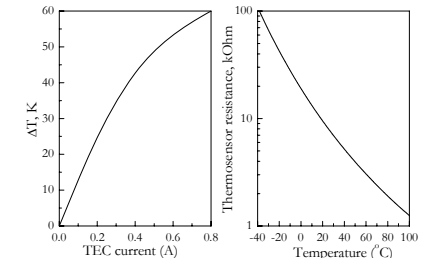
	LED42Sr	LED42TO8TEC
Product view		 <p>1 TEC -; 4 TEC + 8 LED +; 13 LED - 10, 11 thermosensor</p> 

- ✓ All devices are stressed at 80 $^{\circ}\text{C}$ (I=0) and I=200 mA (CW, 20 $^{\circ}\text{C}$) for 10 hrs before final test and shipping to a customer.
- ✓ Beam divergence of the LEDs is small and thus we recommend adjusting LED position regarding to the detector system before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22 $^{\circ}\text{C}$) and LED attached to a heatsink. Heatsink is important for normal LED operation especially in the CW mode.
- ✓ Polarity: see Product view. In near future two color wires will be used.

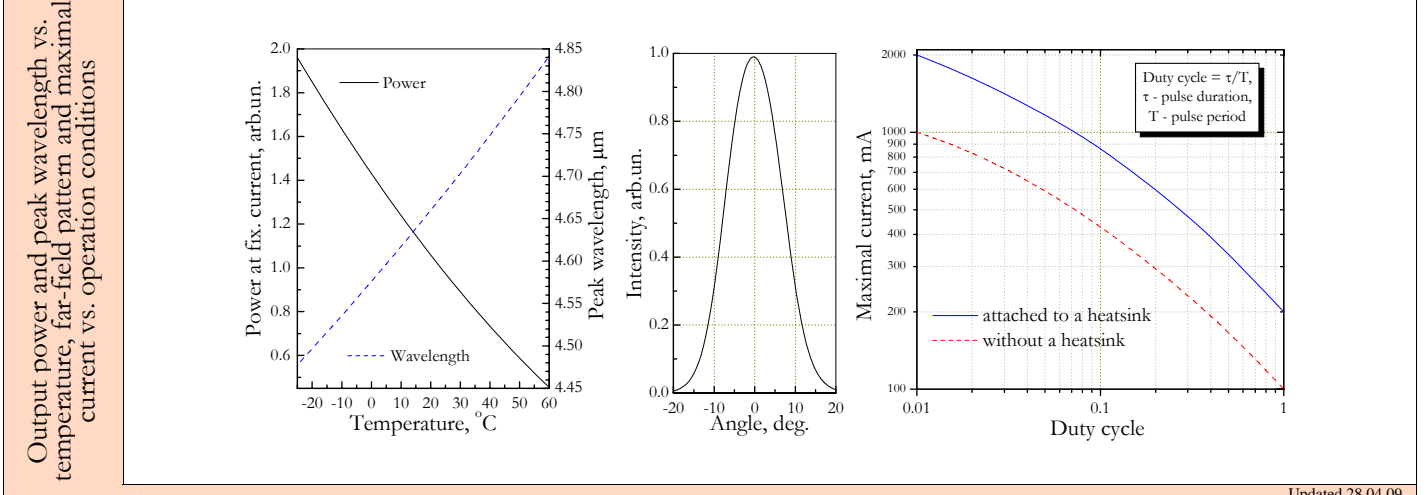
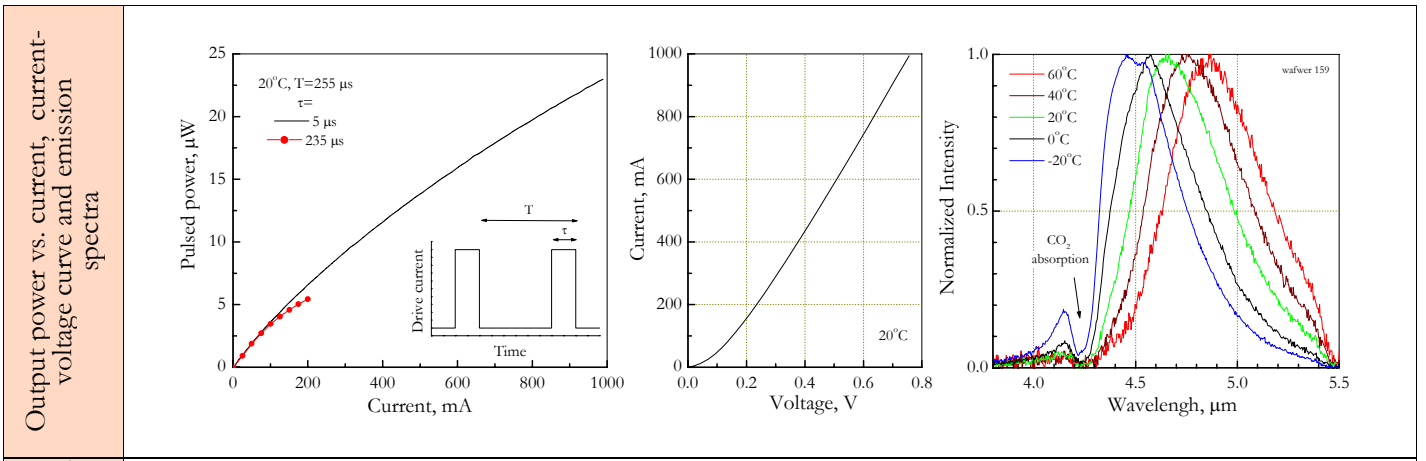


Optically Immersed 4.7 μm LED in heat-sink optimized housing				LED47Sr	
Peak wavelength	λ_{max}	μm	4.7±0.05		
Pulsed power at I=1 A	P_{pulsed}	μW	25±5		
CW power at I=200 mA	P_{CW}	μW	5±1		
Switching time	τ	ns	≤20		

Code	Thread	Emission size, mm	Lens material	Far-field pattern FWHM, deg.	Optical axis deviation, deg	Operation (storage) conditions, °C
LED47Sr	M5×0.5	Ø 3.3	Si	≤20	≤7	-25÷+60 (+80)
LED47TO8TEC			Si lens and sapphire window			


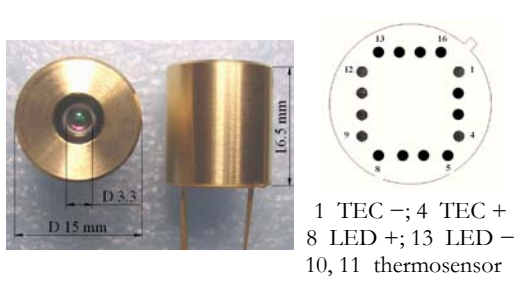
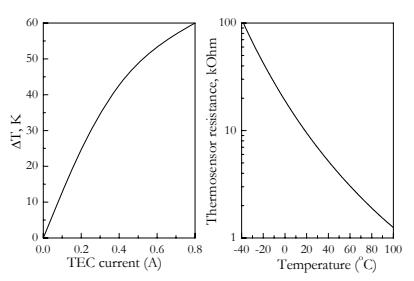
	LED47Sr	LED47TO8TEC
Product view		  1 TEC -; 4 TEC + 8 LED +; 13 LED - 10, 11 thermosensor
		

- ✓ All devices are stressed at 80°C (I=0) and I=150 mA (CW, 20°C) for 10 hrs before final test and shipping to a customer.
- ✓ Beam divergence of the LEDs is small and thus we recommend adjusting LED position regarding to the detector system before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22°C) and LED attached to a heatsink. Heatsink is important for normal LED operation especially in the CW mode.
- ✓ Polarity: see Product view. In near future two color wires will be used.

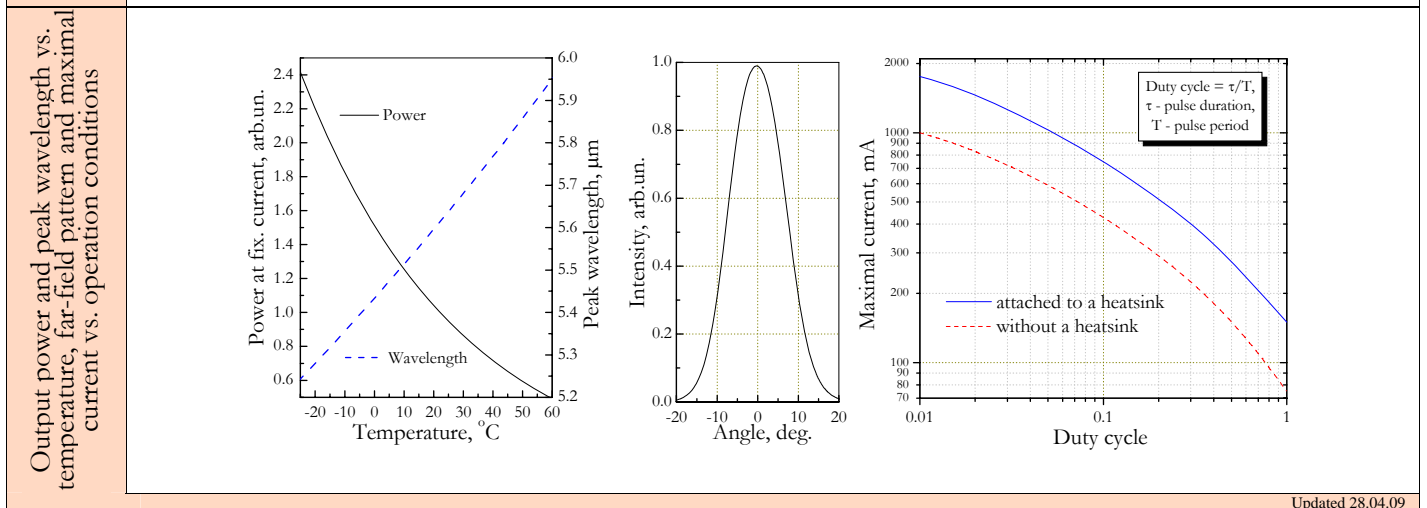
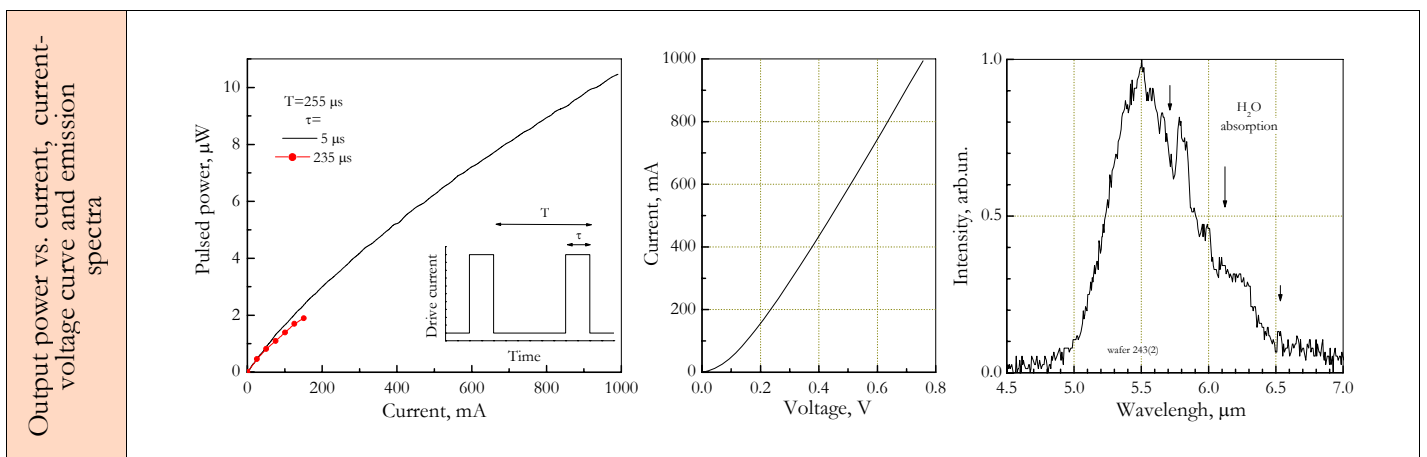


Optically Immersed 5.5 μm LED in heat-sink optimized housing				LED55Sr	
Peak wavelength	λ_{max}	μm	5.5 \div 5.7		
Pulsed power at I=1 A	P_{pulsed}	μW	10 \pm 2		
CW power at I=150 mA	P_{CW}	μW	2 \pm 0.5		
Switching time	τ	ns	\leq 20		

Code	Thread	Emission size, mm	Lens material	Far-field pattern FWHM, deg.	Optical axis deviation, deg	Operation (storage) conditions, $^{\circ}\text{C}$
LED55Sr	M5 \times 0.5	\varnothing 3.3	Si	\leq 20	\leq 7	-25 \div +60 (+80)
LED55TO8TEC			Si lens and sapphire window			

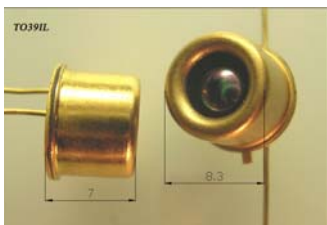
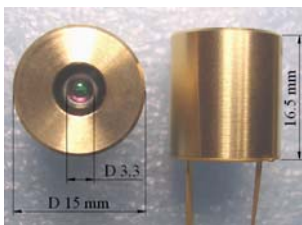
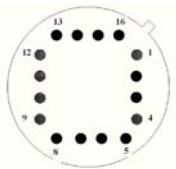
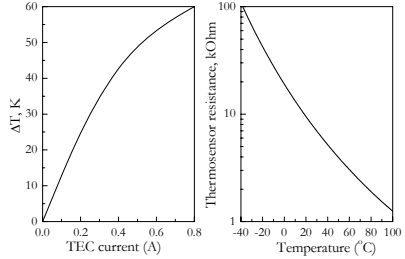
	LED55Sr	LED55TO8TEC
Product view		 <p>1 TEC -; 4 TEC + 8 LED +; 13 LED - 10, 11 thermosensor</p> 

- ✓ All devices are stressed at 80 $^{\circ}\text{C}$ (I=0) and I=150 mA (CW, 20 $^{\circ}\text{C}$) for 10 hrs before final test and shipping to a customer.
- ✓ Beam divergence of the LEDs is small and thus we recommend adjusting LED position regarding to the detector system before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22 $^{\circ}\text{C}$) and LED attached to a heatsink. Heatsink is important for normal LED operation especially in the CW mode.
- ✓ Polarity: see Product view. In near future two color wires will be used.



Optically Immersed 7.0 μm LED in heat-sink optimized housing				OPLED70
Peak wavelength	λ_{max}	μm	6.5÷7.0	
Pulsed power at I=1 A	P_{pulsed}	μW	5÷10	
CW power at I=100 mA	P_{CW}	μW	1÷1.8	
Switching time	τ	ns	≤50	

Code	Emission size, mm	Lens material	Far-field pattern FWHM, deg.	Operation (storage) conditions, °C	Polarity
OPLED70	Ø 3.3	CdSb	≤40	-25÷+40	short leg or key is negative
OPLED70TO8TEC		CdSb lens and sapphire window			See fig. below

	OPLED70	OPLED70TO8TEC
Product view		  1 TEC -; 4 TEC + 8 LED +; 13 LED - 10, 11 thermosensor
		

- ✓ All devices are stressed at I=100 mA (CW, 20°C) for 10 hrs before final test and shipping to a customer.
- ✓ Beam divergence of the LEDs is small and thus we recommend adjusting LED position regarding to the detector system before final evaluation/use of the devices.
- ✓ All data are valid for room temperature (22°C) and LED attached to a heatsink. Heatsink is important for normal LED operation especially in the CW mode.

