1.2.3 High Energy Pyroelectric Sensors

50µJ to 20J

Features

- Sensors with diffuser for high energies and high energy densities
- Metallic coating for high rep rates
- BF coating for highest damage threshold
- Wide spectral range. Measure YAG and harmonics and many more.
- Rep rates up to 3000Hz
- Measure lasers with pulse widths up to 5ms

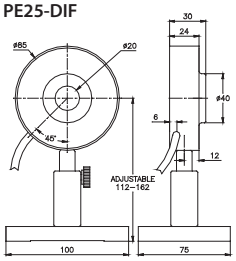
PE25-DIF

PE50-DIF/ PE50BF-DIF

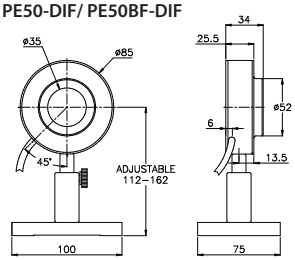
PE25BF-DIF

Model	PE25-DIF		PE50-DIF		PE25BF-DIF		PE50BF-DIF	
Use	**High rep rate. Mainly for 1064nm and 532nm**		**High rep rate. Complete calibration curve**		**Complete calibration curve. High damage threshold**		**Complete calibration curve. Highest damage threshold**	
Aperture mm	φ20		φ35		φ20		φ35	
Absorber Type	Metallic with diffuser		Metallic with diffuser		BF with diffuser		BF with diffuser	
Spectral Range µm [a]	0.4 - 2.5		0.19 - 3		0.19 - 2.2		0.19 - 2.2, 2.94	
Surface Reflectivity % approx.	15		25		25		25	
Calibration Accuracy +/-% [a]	3		3		3		3	
Max Pulse Width Setting	Short	Long	Short	Long	Short	Long	Short	Long
Energy Scales	20J to 4mJ	20J to 4mJ	10J to 200µJ	10J to 2mJ	20J to 4mJ	20J to 40mJ	20J to 4mJ	20J to 40mJ
Lowest Measurable Energy µJ	150	200	50	150	200	1000	200	1000
Max Pulse Width ms	0.05	1	0.02	1	1	5	1	5
Maximum Pulse Rate pps	2500	250	3000	250	150	40	120	40
Noise on Lowest Range µJ	10	10	4	30	15	100	15	100
Additional Error with Frequency %	±2	±2	±2	±2	±2	±2	±2	±2
Linearity with Energy for > 10% of full scale	±2%	±2%	±2%	±2%	±2%	±2%	±2%	±2%
Damage Threshold J/cm² [b]								
<100ns	1		1		2		4	
1µs	2		2		4		8	
300µs	20		20		20		40	
2ms	NA		40		40		80	
Maximum Average Power W	25		30		20		30	
Maximum Average Power Density W/cm²	200		100		250		500	
Uniformity over surface	±2.5% over central 10mm		±2.5% over central 20mm		±2.5% over central 10mm		±2.5% over central 20mm	
Weight Kg	0.25		0.25		0.25		0.25	
Version			V2					
Part Number	**7Z02880**		**7Z02885**		**7Z02889**		**7Z02888**	
Notes: (a) Calibration curve is verified and adjusted at specified wavelengths. At other wavelengths, there may be an additional error up to the value given.	Calibrated only for 532nm and 1064nm. Uncalibrated at other wavelengths		Specified wavelengths: 193nm, 248-266nm, 1064nm and 2.94nm. Additional error at 193nm ±3%. Max additional error at other wavelengths not specified above: ±2% 193nm reading may need 1min irradiation to stabilize.		Specified wavelengths: 193nm, 248-266nm, 355nm, 532nm and 1064nm Max additional error at 193nm and other wavelengths not specified above: ±3% 193nm reading may need 1min irradiation to stabilize.		Specified wavelengths: 193nm, 248-266nm, 355nm, 532nm, 1064nm and 2.94nm. Max additional error at 193nm and other wavelengths not specified above: ±3% 193nm reading may need 1min irradiation to stabilize.	
Notes: (b)			For wavelengths >2µm, derate to 10% of above values. For beam size <=5mm. For 10mm beam, derate to 50% of above value		For wavelengths below 600nm, derate to 60% of given values. For wavelengths below 240nm, derate to 1J/cm² For beam size <=5mm. For 10mm beam, derate to 50% of above values		For wavelengths >2µm, derate to 10% of above values For wavelengths below 600nm, derate to 60% of given values. For wavelengths below 240nm, derate to 1J/cm² For beam size <=5mm. For 10mm beam, derate to 50% of above values	

PE25-DIF



PE50-DIF/ PE50BF-DIF



PE25BF-DIF