OEC

Opto-Electronic
Components

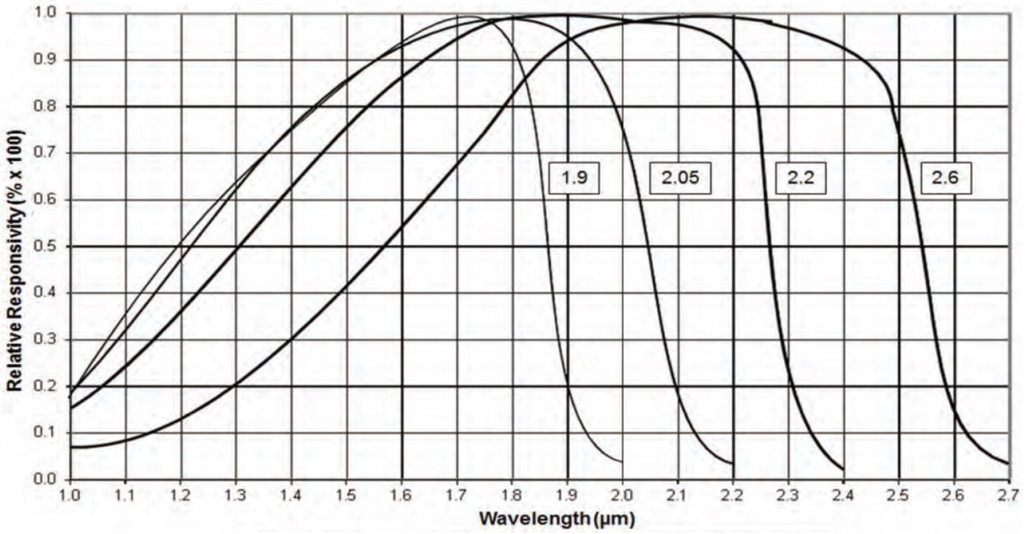
TÜV
ISO 9001

YOUR PARTNER

Stand 02.07.2018

Extended InGaAs Photodiodes
1µm – 1,9 … 2,6µm

Relative Spectral Response



Electro-optical Data

23°C +,- 2°C

1,9µm Type

Performance Specification	GAP300/1.9	GAP500/1.9	GAP1000/1.9	GAP2000/1.9	GAP3000/1.9	Units
Active Diameter	0.3	0.5	1	2	3	mm
Peak Wavelength (typ)	1.7 ± 0.1	1.7 ± 0.1	1.7 ± 0.1	1.7 ± 0.1	1.7 ± 0.1	µm
Cutoff Wavelength (50%)	1.9 ± 0.1	1.9 ± 0.1	1.9 ± 0.1	1.9 ± 0.1	1.9 ± 0.1	µm
Responsivity @ λ_P(min/typ)	0.9/1.0	0.9/1.0	0.9/1.0	0.9/1.0	0.9/1.0	A/W
Shunt Resistance (min)	15	2	1	0.25	0.11	MΩ
Dark Current (max)	0.1 @ 1 V	0.9 @ 1 V	4 @ 1 V	10 @ 1 V	22.5 @ 0.5 V	µA
Capacitance (typ) @ 0 V	60	200	600	3000	6750	pF
Bandwidth w/ 50 Ω @ 0 V (typ)	53	16	5.3	1.1	0.47	MHz
Rise time w/ 50 Ω @ 0 V (typ)	6.6	22	66	330	742	ns
NEP @ λ_{PEAK} (typ)	3 x 10^{-14}	9 x 10^{-14}	12.8 x 10^{-14}	26 x 10^{-14}	38 x 10^{-14}	W/$Hz^{1/2}$
Linearity (± 0.2 dB @ 0 V)	6	6	6	6	6	dBm
Case Style	TO-46	TO-46	TO-46	TO-5	TO-5	

Maximum Ratings

Performance Specification	GAP300/1.9	GAP500/1.9	GAP1000/1.9	GAP2000/1.9	GAP3000/1.9	Units
Storage Temperature	-40 to 125	-40 to 125	-40 to 125	-40 to 125	-40 to 125	°C
Operating Temperature	-40 to 85	-40 to 85	-40 to 85	-40 to 85	-40 to 85	°C
Reverse Voltage	3	2	2	2	1	V
Reverse Current	10	10	10	10	10	mA
Forward Current	10	10	10	10	10	mA
Power Dissipation	50	50	50	50	50	mW

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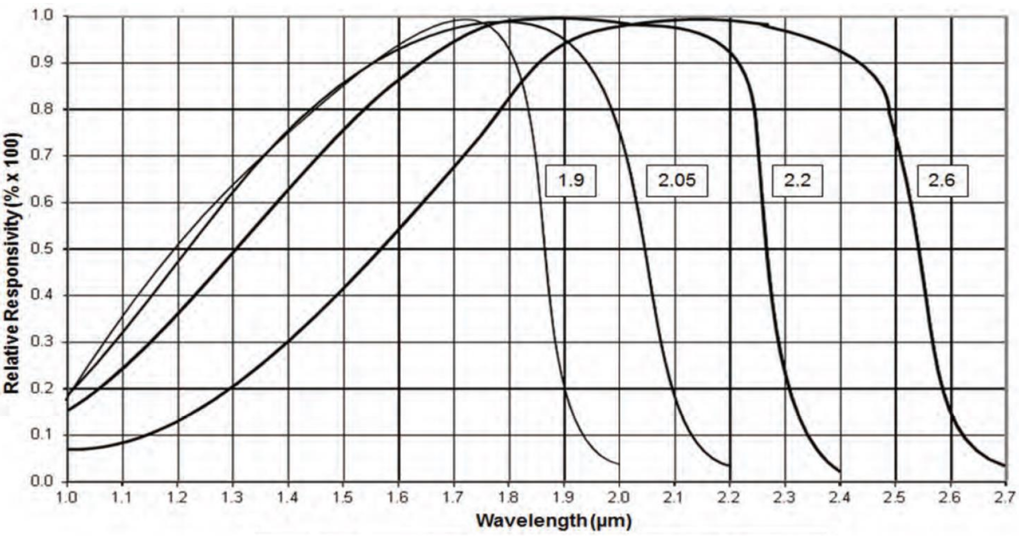

Electro-optical Data

23°C +,- 2°C

2,05µm Type

Performance Specification	GAP300/2.05	GAP500/2.05	GAP1000/2.05	GAP2000/2.05	GAP3000/2.05	Units
Active Diameter	0.3	0.5	1	2	3	mm
Peak Wavelength (typ)	1.8 ± 0.1	1.8 ± 0.1	1.8 ± 0.1	1.8 ± 0.1	1.8 ± 0.1	µm
Cutoff Wavelength (50%)	2.05 ± 0.1	2.05 ± 0.1	2.05 ± 0.1	2.05 ± 0.1	2.05 ± 0.1	µm
Responsivity @ λ_P(min/typ)	0.9/1.0	0.9/1.0	0.9/1.0	0.9/1.0	0.95/1.1	A/W
Shunt Resistance (min/typ)	2M/5M	1M/2.5M	0.3M (min)	90k (min)	15k/20k	Ω
Dark Current (max)	0.5 @ 1 V	1 @ 1 V	4 @ 1 V	10	12 @ 0.5 V	µA
Capacitance (typ) @ 0 V	80	250	500	1600	4000	pF
Bandwidth w/ 50 Ω @ 0 V (typ)	40	12.7	6.4	2	0.8	MHz
Rise time w/ 50 Ω @ 0 V (typ)	9	27.5	55	176	440	ns
NEP @ λ_{PEAK} (typ)	5.7 x 10^{-14}	8.1 x 10^{-14}	23.4 x 10^{-14}	42.8 x 10^{-14}	90.7 x 10^{-14}	W/Hz$^{1/2}$
Linearity (± 0.2 dB @ 0 V)	6	6	6	6	6	dBm
Case Style	TO-46	TO-46	TO-46	TO-5	TO-5	

Maximum Ratings

Performance Specification	GAP300/2.05	GAP500/2.05	GAP1000/2.05	GAP2000/2.05	GAP3000/2.05	Units
Storage Temperature	-40 to 125	-40 to 125	-40 to 125	-40 to 125	-40 to 125	°C
Operating Temperature	-40 to 85	-40 to 85	-40 to 85	-40 to 85	-40 to 85	°C
Reverse Voltage	2	2	2	2	1	V
Reverse Current	10	10	10	10	10	mA
Forward Current	10	10	10	10	10	mA
Power Dissipation	50	50	50	50	50	mW

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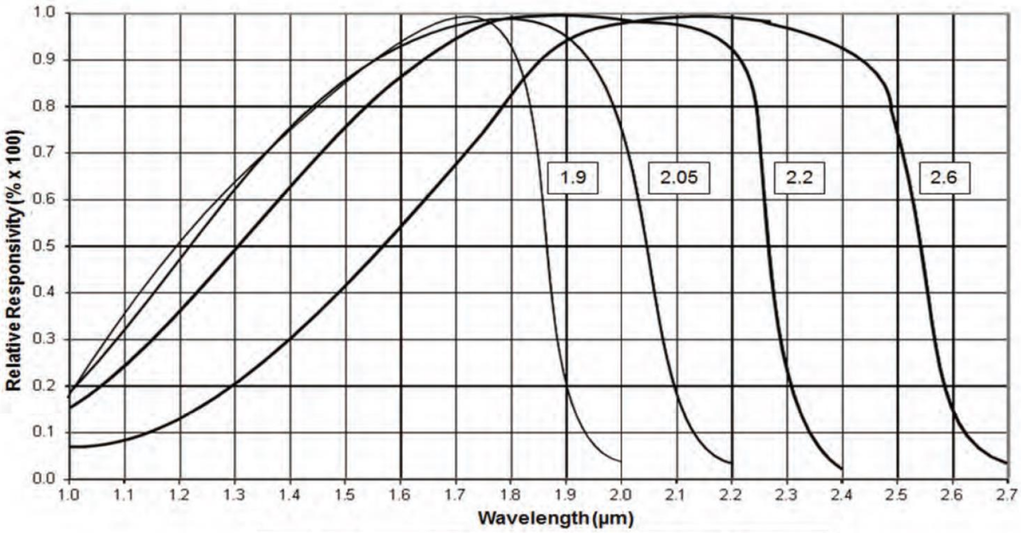
Relative Spectral Response



Electro-optical Data

23°C +,- 2°C

2,2µm Type

Performance Specification	GAP300/2.2	GAP500/2.2	GAP1000/2.2	GAP2000/2.2	GAP3000/2.2	Units
Active Diameter	0.3	0.5	1	2	3	mm
Peak Wavelength (typ)	2.0 ± 0.1	2.0 ± 0.1	2.0 ± 0.1	2.0 ± 0.1	2.0 ± 0.1	µm
Cutoff Wavelength (50%)	2.2 ± 0.1	2.2 ± 0.1	2.2 ± 0.1	2.2 ± 0.1	2.2 ± 0.1	µm
Responsivity @ λ_P(min/typ)	0.9/1.0	0.9/1.0	0.9/1.0	0.9/1.0	0.9/1.0	A/W
Shunt Resistance (min/typ)	0.5M/0.8M	0.18M/0.33M	40k/75k	6k/10k	2k/6k	Ω
Dark Current (max)	1 @ 1 V	5 @ 1 V	10 @ 1 V	40 @ 1 V	100 @ 1 V	µA
Capacitance (typ) @ 0 V	90	275	1000	4000	8000	pF
Bandwidth w/ 50 Ω @ 0 V (typ)	35	11.6	3.18	0.795	0.397	MHz
Rise time w/ 50 Ω @ 0 V (typ)	10	30	110	440	881	ns
NEP @ λ_{PEAK} (typ)	$14.3x10^{-14}$	22.3×10^{-14}	46.8×10^{-14}	128×10^{-14}	287×10^{-14}	$W/Hz^{1/2}$
Linearity (± 0.2 dB @ 0 V)	6	6	6	6	6	dBm
Case Style	TO-46	TO-46	TO-46	TO-5	TO-5	

Maximum Ratings

Performance Specification	GAP300/2.2	GAP500/2.2	GAP1000/2.2	GAP2000/2.2	GAP3000/2.2	Units
Storage Temperature	-40 to 125	-40 to 125	-40 to 125	-40 to 125	-40 to 125	°C
Operating Temperature	-40 to 85	-40 to 85	-40 to 85	-40 to 85	-40 to 85	°C
Reverse Voltage	2	2	1	1	1	V
Reverse Current	10	10	10	10	10	mA
Forward Current	10	10	10	10	10	mA
Power Dissipation	50	50	50	50	50	mW

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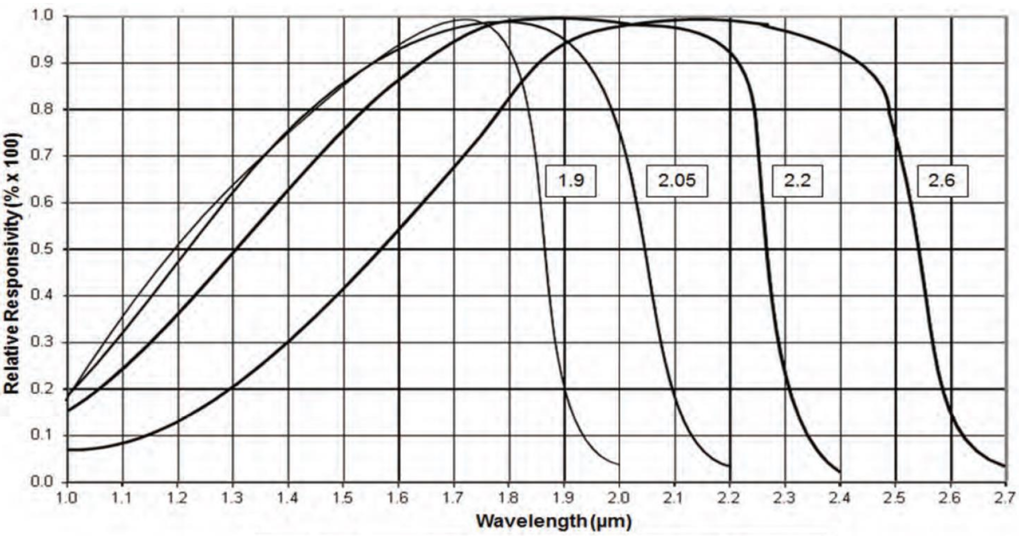

Electro-optical Data

23°C +,- 2°C

2,6µm Type

Performance Specification	GAP300/2.6	GAP500/2.6	GAP1000/2.6	GAP2000/2.6	GAP3000/2.6	Units
Active Diameter	0.3	0.5	1	2	3	mm
Peak Wavelength (typ)	2.2 ± 0.1	2.2 ± 0.1	2.2 ± 0.1	2.2 ± 0.1	2.2 ± 0.1	µm
Cutoff Wavelength (50%)	2.6 ± 0.1	2.6 ± 0.1	2.6 ± 0.1	2.6 ± 0.1	2.6 ± 0.1	µm
Responsivity @ λ_P(min/typ)	0.9/1.0	0.9/1.0	0.9/1.0	0.9/1.0	0.9/1.0	A/W
Shunt Resistance (min/typ)	16k/25k	5k/8k	2k/4k	0.5k/1.5k	0.2k/0.5k	Ω
Dark Current (max)	13 @ 1 V	20 @ 0.5 V	80 @ 0.5 V	320 @ 0.5 V	500 @ 0.5 V	µA
Capacitance (typ) @ 0 V	100	270	1000	4400	10000	pF
Bandwidth w/ 50 Ω @ 0 V (typ)	32	16	3.2	0.8	0.35	MHz
Rise time w/ 50 Ω @ 0 V (typ)	11	22	110	440	1000	ns
NEP @ λ_{PEAK} (typ)	81×10^{-14}	143×10^{-14}	203×10^{-14}	331×10^{-14}	574×10^{-14}	$W/Hz^{1/2}$
Linearity (± 0.2 dB @ 0 V)	6	6	6	6	6	dBm
Case Style	TO-46	TO-46	TO-46	TO-5	TO-5	

Maximum Ratings

Performance Specification	GAP300/2.6	GAP500/2.6	GAP1000/2.6	GAP2000/2.6	GAP3000/2.6	Units
Storage Temperature	-40 to 125	-40 to 125	-40 to 125	-40 to 125	-40 to 125	°C
Operating Temperature	-40 to 85	-40 to 85	-40 to 85	-40 to 85	-40 to 85	°C
Reverse Voltage	2	0.5	0.5	0.5	0.5	V
Reverse Current	10	10	10	10	10	mA
Forward Current	10	10	10	10	10	mA
Power Dissipation	50	50	50	50	50	mW

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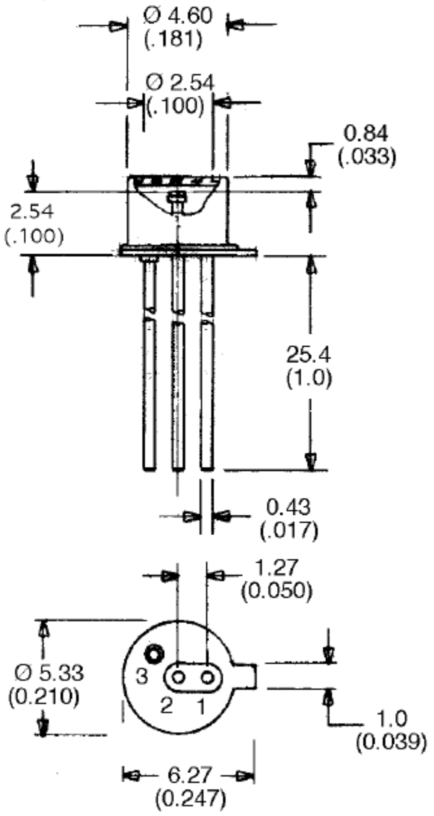
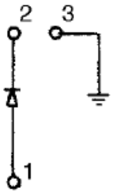
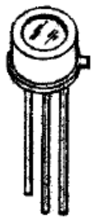
Package Outlines

Dimensions in mm (in.); many other packages (including lensed packages) available.

TO-46 (modified)







TO-5