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Products

Epitaxial chips for use in optoelectronic devices

A photograph of a square, light blue-green epitaxial chip. The surface is covered in a dense, regular grid of small, raised square bumps. There are several larger, irregularly shaped white or light-colored patches scattered across the surface, likely representing different material regions or defects. The chip is shown at an angle, giving it a three-dimensional appearance.

Edition 2010

Material	Item No.	Wavelength [λ_p / nm] * [λ_d / nm]	V _{ftyp} [V]	V _{fmax} [V]	I _{vmin} [mcd] * [mW]	I _{vtyp} [mcd] * [mW]	I _F [mA]
<i>STANDARD RED</i> GaAsP/GaAs p-side up	101205	660	1.65	1.84	0.30	0.60	20
	102205	660	1.65	1.84	0.25	0.40	10
	105206	660	1.65	1.84	0.17	0.25	7
	105207	660	1.65	1.84	0.15	0.20	7
	105208	660	1.65	1.84	0.15	0.20	7
	105209	660	1.65	1.84	0.15	0.20	7
<i>RED</i> GaAlAs/GaAs DHS n-side up DHS p-side up GaAlAs/GaAlAs DDH n-side up DDH p-side up	114120	655	1.85	2.10	7.0	9.0	20
	114130	650	1.85	2.10	9.0	14.0	20
	114220	655	1.85	2.10	7.0	9.0	20
	114230	650	1.85	2.10	9.0	12.0	20
	115180	655	1.90	2.30	22.0	28.0	20
	115183	650	1.90	2.30	22.0	28.0	20
	115183	655	1.90	2.30	22.0	28.0	20
	115183-660	660	1.90	2.30	16.0	22.0	20
	115183-660-LP	660	1.90	2.30	1.2*	1.5*	20
	115183-660	660	1.90	2.30	1.7*	2.0*	20
	115186-660	660	1.70	2.00	1.2*	1.7*	20
	115183-663	663	1.90	2.30	1.6*	2.2*	20
	115183-665	665	1.90	2.30	1.6*	2.2*	20
	11518XL-660	660	1,75	2,00	2,5*	3,0*	100/50
	11518XL2-660	660	1,80	2,10	7,0**	9,0**	350
	115260	660	1.90	2.30	12.0	16.0	20
	115280	660	1.90	2.30	17.0	22.0	20
	115283	660	1.90	2.30	17.0	22.0	20
	11528XL	660	1,75	2,00	2,0*	2,5*	100/50

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<i>INFRA-RED</i> GaAlAs/GaAlAs DDH n-side up DDH p-side up DDH n-side up DH n-side up DDH n-side up	115161L	670	1,90	2,30	1,5*	2,0*	20
	11516LXL	670	1,80	2,10	2,5*	3,0*	100/50
	115261L	670	1,90	2,30	1,5*	2,0*	20
	115161H	680	1,90	2,30	1,5*	2,0*	20
	11516HXL	680	1,80	1,95	3,2*	4,0*	100/50
	11516HXL2	680	1,80	2,10	8,0**	10,0**	350
	137141L	690	1,90	2,30	1,5*	2,0*	20
	13714LXL	690	1,80	1,95	3,2*	4,0*	100/50
	137141	700	1,90	2,30	1,5*	2,0*	20
	137140	700	1,90	2,30	1,5*	2,0*	20
	13714XL	700	1,75	2,00	3,5*	5,0*	100/50
	137141H	710	1,80	2,10	1,6*	2,0*	20
	127141L	720	1,70	2,10	2,0*	2,6*	20
	12714LXL	720	1,65	1,90	4,5*	6,0*	100/50
	127141D	724	1,70	2,10	2,4*	3,0*	20
	127141N	730	1,70	2,10	2,4*	3,0*	20
	12714NXL	730	1,65	1,90	4,5*	6,0*	100/50
	127141	740	1,70	2,10	2,4*	3,2*	20
	127144	740	1,70	2,10	2,4*	3,2*	20
	12714XL	740	1,70	2,00	5,0*	6,5*	100/50
	127124	740	1,70	2,10	0,6*	0,8*	20
	127141H	750	1,70	2,10	2,4*	3,2*	20
	12714HXL	750	1,70	2,00	5,0*	6,5*	100/50
	124141L	760	1,70	2,10	2,5*	3,2*	20
	12414LXL	760	1,65	1,90	5,6*	7,0*	100/50
	124141	770	1,70	2,10	2,6*	3,2*	20
	124144	770	1,70	2,10	2,6*	3,2*	20
	12414XL	770	1,65	1,90	6,0	7,5	100/50
	124141H	780	1,70	2,10	2,6*	3,2*	20
	132141L	790	1,70	2,10	2,6*	3,3*	20

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<i>INFRA-RED</i>							
GaAlAs/GaAlAs DDH n-side up	132144	800	1.60	2.10	2.6*	3.4*	20
	13214XL	800	1,60	1,90	3,0*	4,0*	100/50
	125144L	805	1.60	2.10	2.6*	3.4*	20
	125144	810	1.55	1.80	2.8*	3.4*	20
	12514XL	810	1,55	1,80	3,0*	4,0*	100/50
	125144D	812	1.55	1.80	2.8*	3.4*	20
DDH p-side up	125244	810	1.50	2.00	2.8*	3.2*	20
DDH n-side up	134144	820	1.55	1.80	2.5*	3.4*	20
	13414XL	820	1,55	1,80	3,0*	4,0*	100*
	135144L	830	1.55	1.80	2.5*	3.4*	20
DDH p-side up	135244L	830	1.45	1.65	3,5*	4,5*	20
DDH n-side up	135144	840	1.55	1.80	2.5*	3.4*	20
	136144	850	1.50	1.80	2.5*	3.4*	20
DDH p-side up	136274	850	1.35	1.60	3.8*	4.5*	20
	13627XL	850	1,35	1,50	3,5*	4,5*	100/50
DH n-side up	126124	860	1.30	1.60	0.9*	1.2*	20
DDH n-side up	126164	870	1.35	1.60	3.8*	4.6*	20
	12616XL	870	1,40	1,60	3,5*	4,5*	100/50
SH n-side up	123144	870	1.30	1.50	1.3*	1.8*	20
DDH p-side up	126244F	870	1.30	1.50	2.5*	3.0*	20
	126284	870	1.35	1.60	4.4*	5.5*	20
	12628XL	870	1,35	1,50	4,0*	4,5*	100/50
	126284H	875	1.30	1.60	4.4*	5.5*	20
	126251	875	1.30	1.50	2.8*	3.2*	20
	126254	875	1.30	1.50	2.8*	3.2*	20
DDH n-side up	126164H	880	1.35	1.60	4.4*	5.3*	20
SH n-side up	123144H	880	1.30	1.50	1.3*	1.8*	20
DDH p-side u	126264H	880	1.30	1.50	3.2*	4.4*	20
	12626HXL	880	1,35	1,50	4,0*	4,5*	100/50
	126254H-890	890	1.30	1.60	3.0*	3.8*	20

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<i>INFRA-RED</i>							
GaAlAs/GaAlAs DDH p-side u DDH n-side up DDH p-side DDH n-side up SH n-side up DDH n-side up DDH p-side up	133254-900	900	1.25	1.50	2.8*	3.5*	20
	13325XL-900	900	1,25	1,40	5,5*	6,5*	100/50
	133131-905	905	1.30	1.60	1.2*	1.8*	20
	13313XL-905	905	1,30	1,50	5,0*	6,5*	100/50
	133154-905	905	1.30	1.60	3.0*	3.8*	20
	133254-905	905	1.25	1.50	2.8*	3.5*	20
	133254-910	910	1.25	1.50	2.8*	3.5*	20
	13325XL-910	910	1,25	1,40	5,5*	6,5*	100/50
	133154	910	1.30	1.60	3.0*	3.8*	20
	128144	910	1.30	1.50	1.3*	1.8*	20
	133154-915	915	1.30	1.60	3.0*	3.8*	20
	128254	920	1.25	1.50	2.8*	3.4*	20
	12825XL	920	1,20	1,40	5,5*	7,0*	100/50
GaAs/GaAs n-side up p-side up n-side up	120124	930	1.20	1.40	0.9*	1.0*	20
	120214	930	1.20	1.40	0.6*	0.8*	20
	120234	950	1.25	1.40	1.0*	1.3*	20
	120134	950	1.25	1.40	1.0*	1.5*	20
GaAlAs/GaAs p-side up	131234	940	1.20	1.40	2.0*	2.4*	20
	13123XL	940	1,15	1,30	4,5*	5,5*	100/50
	131244	950	1.25	1.45		2.4*	20
MQW-GaAlAs p-side up	131254-940	940	1.20	1.40	1.6*	2.0*	20
	131254-960	960	1.25	1.45		2.0*	20
	131254-970	970	1.25	1.45		2.0*	20
	150234-1020	1020	1.30	1.50		5.0*	100/50
	15022XL-1020	1020	1.20	1.40		8,5**	350
	150234-1050	1050	1.25	1.40		4,5*	100/50
	15022XL-1050	1050	1.20	1.40		6,5**	350
	150234-1060	1060	1.25	1.40		4.0*	100/50
	15022XL-1060	1060	1.20	1.40		4.5**	350

** in mW/sr

Material	Item No.	Wavelength [λ_p / nm] * [λ_d / nm]	V _{Ftyp} [V]	V _{Fmax} [V]	I _{Vmin} [mcd] * [mW]	I _{Vtyp} [mcd] * [mW]	I _F [mA]	
<i>GREEN</i> GaP/GaP p-side up	160210	568	2.25	2.50	2.0	4.5	20	
	160220	568	2.25	2.50	4.5	8.0	20	
	160230	568	2.25	2.50	6.5	10.0	20	
	n-side up	160130	568	2.25	2.50	6.5	10.0	20
		p-side up	160240	568	2.25	2.50	10.0	13.5
	Low current	160250	568	2.25	2.50	11.5	15.0	20
		160260	568	2.25	2.50	13.0	16.5	20
	pure green	160622	568	1.95	2.20	0.5	0.7	2
	standard more green	161210	557	2.30	2.60	1.4	2.0	20
	standard green	162220	563	2.25	2.50		8.0	20
	163230	566	2.25	2.50		11.0	20	
<i>GREEN</i> AlInGaP/GaAs p-side up	160272	572*	2.10**	2.40**		26.0	10	
	16027XL	572*	2,05	2,30		1000	350	
	pure green	161230	560*	2.20	2.50		11.0	20
<i>YELLOW</i> GaAsP/GaP p-side up	170210	590	2.20	2.50	2.0	3.0	20	
	170220	590	2.20	2.50	3.5	6.0	20	
	Low current	170622	590	1.85	2.05	0.18	0.30	2
<i>YELLOW</i> AlInGaP/GaAs p-side up	170272	590*	2.10**	2.40**		40.0	10	
	170282	590*	2.10**	2.40**		70.0	10	
	17028XL	590*	2,10	2,30		1000	100	
	171282	580*	2.10**	2.40**		55.0	10	

Material	Item No.	Wavelength	V _{Ftyp}	V _{Fmax}	I _{Vmin}	I _{Vtyp}	I _F
		[λ _p / nm] *[λ _d / nm]	[V]	[V]	[mcd] *[mW]	[mcd] *[mW]	[mA]
<i>SOFT ORANGE</i> GaAsP/GaP p-side up Low current	180220	610	2.20	2.50	3.0	5.0	20
	180622	610	1.85	2.00	0.18	0.25	2
<i>SOFT ORANGE</i> AlInGaP/GaAs p-side up	180272	615*	2.10**	2.40**		40.0	10
	180282	615*	2.10**	2.40**		65.0	10
	18028XL	615*					100
	181272	605*	2.10**	2.40**		40.0	10
	181282	605*	2.10**	2.40**		65.0	10
<i>ORANGE</i> GaAsP/GaP p-side up Low current	190210	635	2.10	2.50	2.0	3.0	20
	190220	635	2.10	2.50	3.0	5.0	20
	190622	635	1.80	2.00	0.18	0.23	2
<i>ORANGE</i> AlInGaP/GaAs p-side up	190282	625*	2.10**	2.40**		55.0	10
	19028XL	625*					100
<i>ORANGE</i> GaAlAs DH n-side up MDH n-side up	190130	622*/630	1.80	2.10		6.0	20
	190150	635	1.90	2.30		16.0	20
GaP ZnO doped p-side up	191210	700	2.25**	2.50**	0.4	0.6	5
<i>TSN RED</i> GaAsP/GaP p-side up	192220	650	2.05	2.50	3.0	4.0	20
<i>RED</i> GaAlAs DDH n-side up	193150	635*/650	1.85	2.30		26.0	20
<i>RED</i> AlInGaP/GaAs p-side up n-side up	193252	632*	2.10**	2.40**		10.0	10
	193272	632*	2.10**	2.40**		15.0	10
	193282	632*	2.10**	2.40**		25.0	10
	194272	640*	2.10**	2.40**		11.0	10
	194170	655	1.90**	2.30**		20.0	20

** at 20 mA

It is possible to produce different types with gold or aluminium bond pad.

On request most of the dice can also be delivered in the following chip size classes:

Order No.:

1	X	X	X	X	X	X
	Technology, Peak, wavelength		1 = n-on top 2 = p-on top Low current 5 = n-on top 6 = p-on top		Luminous intensity classes	Chip dimensions: 0 ≅ 265 μm +/- 10 μm 1 ≅ 325 μm +/- 10 μm 2 ≅ 235 μm +/- 10 μm 3 ≅ 295 μm +/- 10 μm 4 ≅ 365 μm +/- 10 μm 5 ≅ 255 μm +/- 10 μm 6 ≅ 465 μm +/- 10 μm 7 ≅ 350 μm +/- 10 μm 8 ≅ 700 μm +/- 10 μm 9 ≅ 205 μm +/- 10 μm XL ≅ 960 μm +/- 10 μm XL2 ≅ 1960 μm +/- 10 μm