
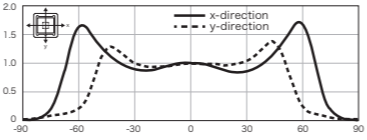


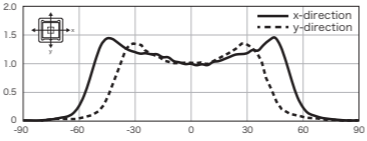

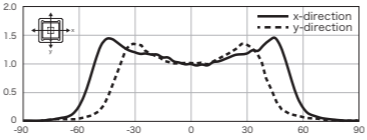

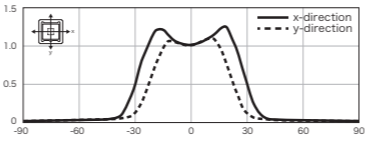




Ta=25°C

IR VCSELs

パッケージ Package	品名 Part name	電気的光学的特性 / Electro-optical characteristics							熱的特性 / Thermal characteristics			絶対最大定格 / Absolute maximum ratings					標準梱包 数量 Standard qty. /Reel	WEB		
		ピーク発光波長 Peak wavelength $\lambda_p$ Typ.	光出力 Optical output power Po Min.   Typ.		応答速度 Response time tr / tf Typ.	順電圧 Forward voltage V <sub>F</sub> Typ.   Max.		照射角度 Field of illumination (FOI x / y) deg.	指向特性 Spatial distribution	選別電流 Sorting current I <sub>F</sub> ≧1 mA	熱抵抗 【ジャンクション-はんだ付け位置】 Thermal resistance [Junction - solder point] R <sub>th(j-c)</sub> Typ.   Max. °C/W		順電流 Forward current I <sub>F</sub> mA	パルス順電流 Pulse forward current I <sub>FRM</sub> ≧2 mA	ジャンクション温度 Junction temperature T <sub>j</sub> °C	静電耐圧 Electrostatic discharge threshold (HBM) V <sub>ESD</sub> kV			動作温度 Operating temperature Topr °C	保存温度 Storage temperature Tstg °C
L3.5 x W3.5 x H1.225  41.3mg	UGN1ZEEA	940	9.3	10.1	1 / 1	3.8	4.2	140/110		6,000	9.5	13	2,000	7,000	150	2	-40~+105	-40~+125	500	
L3.5 x W3.5 x H1.225  44.5mg	UEN1ZEA9 (with Photodiode type)	940	2.4	2.8	1 / 1	2.1	2.5	110 / 85		4,000	8	13	2,000	10,000	125	2	-40~+105	-40~+125	500	
L3.5 x W3.5 x H1.225  44.5mg	UEN1ZA9	940	2.4	2.8	1 / 1	2.1	2.5	110 / 85		4,000	8	13	2,000	10,000	125	4	-40~+125	-40~+125	500	
L3.5 x W3.5 x H1.225  41.2mg	UDN1ZE65	940	1.8	2.1	1 / 1	2.1	2.5	60 / 45		2,700	8	13	2,000	6,000	125	2	-40~+105	-40~+125	500	

※製品画像は代表的なものです / All pictures shown are for illustration purposes only. Actual product may vary due to product enhancement.

※1 駆動条件 / Driving conditions : 0.3ms pulse ※2 駆動条件 / Driving conditions : 0.1ms pulse, 1/100 duty



警告


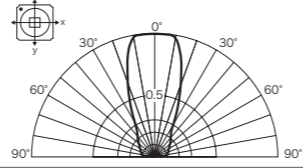


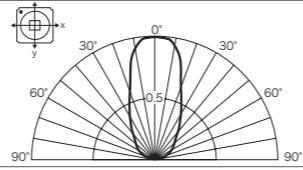

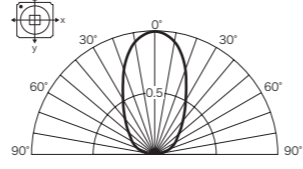
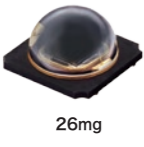
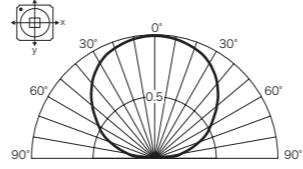
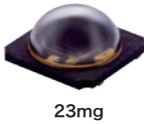
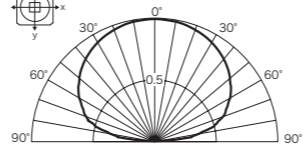
- ・点灯中の本製品からは強い赤外レーザー光が出ています。
- ・目を傷める危険がありますので、点灯中の本製品を直視しないでください。
- ・やむを得ず点灯中の製品を観察する場合には、必ず赤外レーザー光をカットする保護めがねを使用してください。
- ・また、貴社実機においても人体に影響の無い様、光モレ等に対して十分な安全対策を講じて使用ください。



WARNING

- ・ This product emits strong Infrared laser light when it is lit up.
- ・ Do not look directly into the light source, for it could damage your eyes.
- ・ Should it be necessary to observe the product while it is being lit, always use protective glasses that block infrared laser light.
- ・ Please also take sufficient safety measures against light leakage, etc., in order to avoid any influence on the human body.

■ HIGHPOWER IR LEDS

パッケージ Package	品名 Part name	電気的光学的特性 / Electro-optical characteristics										熱的特性 / Thermal characteristics			絶対最大定格 / Absolute maximum ratings							標準梱包 数量 Standard qty. /Reel	WEB		
		ピーク発光波長 Peak wavelength $\lambda_p$ Typ.	放射強度 Radiant intensity I <sub>e</sub>		放射束 Radiant flux $\phi_e$ Typ.	遮断周波数 Cut-off frequency fc Typ.	応答速度 Response time tr/ tf Typ.	順電圧 Forward voltage V <sub>f</sub>		指向半値角 Half-intensity angle 2 $\theta_{1/2}$ ( $\theta_x / \theta_y$ )	指向特性 Spatial distribution	選別電流 Sorting current I <sub>F</sub>	熱抵抗 [ジャンクション-はんだ付け位置] Thermal resistance [Junction - solder point] R <sub>th(j-c)</sub>		順電流 Forward current I <sub>F</sub>	順電流低減率 Forward current decrease rate		パルス順電流 Pulse forward current I <sub>FRM</sub> ※1	パルス順電流低減率 Pulse forward current decrease rate※1		ジャンクション温度 Junction temperature T <sub>j</sub>			動作温度 Operating temperature Topr	保存温度 Storage temperature Tstg
			Min.	Typ.				Min.	Typ.				Typ.	Max.		Typ.	Max.		mA	mA/°C					
L3.8 x W3.8 x H3.2  34mg	VMNN110CMS	945	890	1,160	1,630	-	15 / 15	2.9	3.3	45 / 45		1,000	5	7	1,000	-	-	5,000	-	-	145	-40~+125	-40~+125	500	
L3.8 x W3.8 x H2.8  28mg	VMKN1107MS	810	390	600	1,100	-	15 / 15	3.2	3.7	50 / 50		700	6.5	8.5	700	-	-	2,000	-	-	125	-40~+125	-40~+125	500	
L3.8 x W3.8 x H2.8  28mg	VMGN1107MS	855	390	530	1,100	-	15 / 15	1.8	2.4	60 / 60		1,000	5	7	1,000	-	-	5,000	-	-	125	-40~+125	-40~+125	500	
	VMNN1107MS	945	700	950	1,630	-	15 / 15	2.9	3.2	60 / 60		1,000	5	7	1,000	-	-	5,000 <sup>※1</sup>	-	-	145	-40~+125	-40~+125	500	
	VMFN1107MS	945	280	440	950	-	15 / 15	1.5	2.1	60 / 60		1,000	5	7	1,000	-	-	5,000	-	-	125	-40~+125	-40~+125	500	
L3.8 x W3.8 x H2.1  26mg	VMGN1108MS	855	210	280	1,100	-	15 / 15	1.8	2.4	120 / 120		1,000	5	7	1,000	-	-	5,000	-	-	125	-40~+125	-40~+125	500	
	VMNN1108MS	945	330	470	1,630	-	15 / 15	2.9	3.3	120 / 120		1,000	5	7	1,000	-	-	5,000	-	-	145	-40~+125	-40~+125	500	
	VMFN1108MS	945	140	230	950	-	15 / 15	1.5	2.1	120 / 120		1,000	5	7	1,000	-	-	5,000	-	-	125	-40~+125	-40~+125	500	
L3.8 x W3.8 x H1.75  23mg	VMNN110FMS	945	275	350	1,630	-	15 / 15	2.9	3.3	150 / 150		1,000	5	7	1,000	-	-	5,000	-	-	145	-40~+125	-40~+125	500	

※製品画像は代表的なものです / All pictures shown are for illustration purposes only. Actual product may vary due to product enhancement.

※1 駆動条件 / Driving conditions : 0.1ms pulse, 1/100 duty

ULTRAVIOLET

INFRARED & SENSORS

VISIBLE LIGHT

INFORMATION


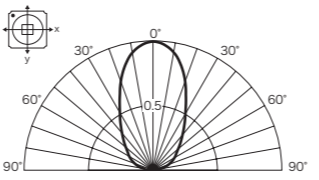
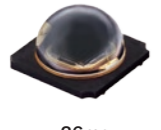
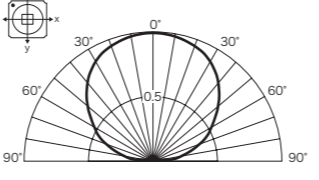
ULTRAVIOLET

INFRARED & SENSORS

VISIBLE LIGHT

INFORMATION

IR LEDs

パッケージ Package	品名 Part name	電気的光学的特性/Electro-optical characteristics									熱的特性/Thermal characteristics			絶対最大定格/Absolute maximum ratings					標準梱包 数量 Standard qty. /Reel	WEB
		ピーク発光波長 Peak wavelength $\lambda_p$ Typ.	放射強度 Radiant intensity $I_e$ Min. Typ.		放射束 Radiant flux $\phi_e$ Typ.	遮断周波数 Cut-off frequency fc Typ.	応答速度 Response time tr/ta Typ.	順電圧 Forward voltage $V_f$ Typ. Max.		指向半値角 Half-intensity angle $2\theta_{1/2}$ ( $\theta_x/\theta_y$ )	指向特性 Spatial distribution	選別電流 Sorting current $I_f$	熱抵抗 【ジャンクション-はんだ付け位置】 Thermal resistance [Junction - solder point] $R_{th(j-s)}$ Typ. Max.		順電流 Forward current $I_f$	パルス順電流 Pulse forward current $I_{FRM}$ ≒1	ジャンクション温度 Junction temperature $T_j$	動作温度 Operating temperature $T_{opr}$		
単位 (Units)		nm	mW/sr		mW	MHz	ns	V		deg.	-	mA	°C/W		mA	mA	°C	°C	°C	pcs.
 28mg	FWR1107MS	755	270	370	680	-	15 / 15	1.8	2.4	60 / 60		700	5	7	1,000	4,500	125	-40~+125	-40~+125	500
	MJN1107MS	855	630	840	1,600	-	15 / 15	3.2	3.6	60 / 60		1,000	5	7	1,000	3,000	125	-40~+125	-40~+125	500
	MGN1107MS	855	350	530	1,100	-	15 / 15	1.8	2.4	60 / 60		1,000	5	7	1,500	5,000	125	-40~+125	-40~+125	500
	MFN1107MS	945	250	440	950	-	15 / 15	1.5	2.1	60 / 60		1,000	5	7	1,500	5,000	125	-40~+125	-40~+125	500
 26mg	FWR1108MS	755	150	200	740	-	15 / 15	1.8	2.4	120 / 120		700	5	7	1,000	4,500	125	-40~+125	-40~+125	500
	MJN1108MS	855	310	440	1,600	-	15 / 15	3.2	3.6	120 / 120		1,000	5	7	1,000	3,000	125	-40~+125	-40~+125	500
	MGN1108MS	855	190	280	1,100	-	15 / 15	1.8	2.4	120 / 120		1,000	5	7	1,500	5,000	125	-40~+125	-40~+125	500
	MFN1108MS	945	130	230	950	-	15 / 15	1.5	2.1	120 / 120		1,000	5	7	1,500	5,000	125	-40~+125	-40~+125	500

※製品画像は代表的なものです/All pictures shown are for illustration purposes only. Actual product may vary due to product enhancement.  
 ※1 駆動条件/Driving conditions : 0.1ms pulse 1/100 duty



ULTRAVIOLET

INFRARED & SENSORS

VISIBLE LIGHT

INFORMATION

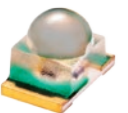
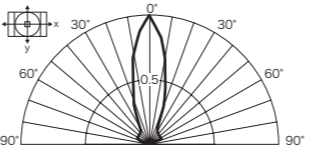

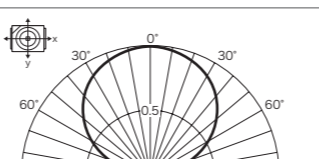

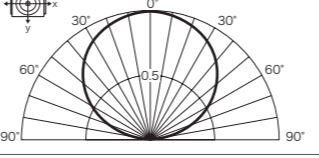

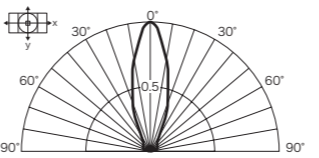

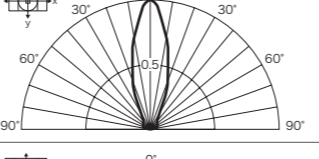

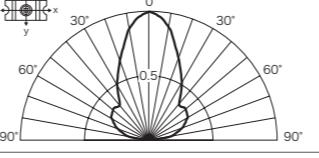

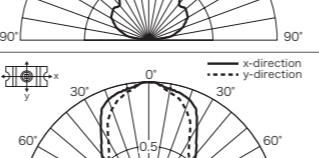

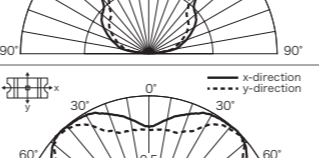

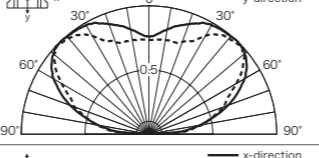


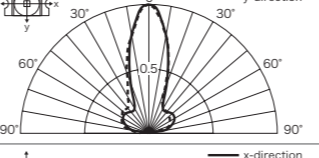

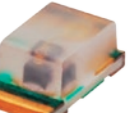
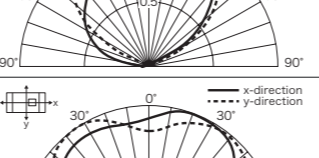

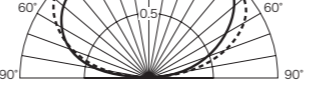
ULTRAVIOLET

INFRARED & SENSORS

VISIBLE LIGHT

INFORMATION

IR LEDs

パッケージ Package	品名 Part name	電気的光学的特性/Electro-optical characteristics									熱的特性/Thermal characteristics		絶対最大定格/Absolute maximum ratings							標準梱包 数量 Standard qty./Reel	WEB				
		ピーク発光波長 Peak wavelength $\lambda_p$ Typ.	放射強度 Radiant intensity $I_e$ Min. Typ.	放射束 Radiant flux $\phi_e$ Typ.	遮断周波数 Cut-off frequency fc Typ.	応答速度 Response time tr/ta Typ.	順電圧 Forward voltage $V_f$ Typ. Max.	指向半値角 Half-intensity angle $2\theta_{1/2}$ ( $\theta_x/\theta_y$ )	指向特性 Spatial distribution	選別電流 Sorting current $I_f$	熱抵抗 [ジャンクション-はんだ付け位置] Thermal resistance [Junction - solder point] $R_{th(j-s)}$ Typ. Max.	順電流 Forward current $I_f$	順電流低減率 Forward current decrease rate $\Delta I_f$ Derating start temp.	パルス順電流 Pulse forward current $I_{FRM}$ *1	パルス順電流低減率 Pulse forward current decrease rate*1 $\Delta I_{FRM}$ Derating start temp.	ジャンクション温度 Junction temperature $T_j$	動作温度 Operating temperature Topr	保存温度 Storage temperature Tstg	pcs.						
 9.0mg	JGN1105H	850	25	50	30	-	13 / 13	1.45	1.65	30 / 30		50	-	-	120	2.40	60	1,200	24	60	-	-40~+100	-40~+100	2,000	
	JFN1105H	950	22.5	45	27	-	13 / 13	1.35	1.65	30 / 30		50	-	-	120	2.40	60	1,200	24	60	-	-40~+100	-40~+100	2,000	
 33mg	JGN1104LS	850	5	9.2	35	-	13 / 13	1.5	1.75	120 / 120		50	110	-	100	2.86	85	1,000	28.6	85	120	-40~+100	-40~+120	2,000	
	JFN1104LS	950	5	8.5	31	-	13 / 13	1.35	1.65	120 / 120		50	110	-	100	2.86	85	1,000	28.6	85	120	-40~+100	-40~+120	2,000	
 7.81mg	TDN1105W-23	870	5.6	11	8.0	50*2	-	1.4	1.65	30 / 30		20	-	-	50	0.67	25	300	4	25	-	-30~+85	-40~+100	2,000	
	TAN1105W	940	2.4	4.8	5.7	0.5*3	1,000/1,000	1.22	1.37	30 / 30		20	-	-	50	0.67	25	300	4	25	-	-30~+85	-40~+100	2,000	
 7.8mg	HDN1102W	850	2.2	3.2	8.5	20*2	-	1.45	1.8	60 / 60		20	-	-	50	0.67	25	300	4	25	-	-30~+85	-40~+100	2,500	
	HAN1102W-1	940	0.7	1	5.7	0.5*3	1,000 / 1,000	1.2	1.4	75 / 90		20	-	-	50	0.67	25	300	4	25	-	-30~+85	-40~+100	2,500	
 7.8mg	TDN1101W	870	0.6	1.2	8.5	50*2	-	1.4	1.7	135 / 145		20	-	-	50	0.67	25	300	4	25	-	-30~+85	-40~+100	2,500	
 1.4mg	VTAN1116P	940	1.8	2.8	5.2	-	1,000 / 1,000	1.25	1.45	40 / 40		20	-	-	50	1.25	60	300	7.5	60	-	-40~+85	-40~+100	3,000	
 1.4mg	TDN1111C	870	1.0	1.3	8.0	50*2	-	1.4	1.7	125 / 125		20	-	-	50	0.67	25	300	4	25	-	-30~+85	-40~+100	4,000	
	VTAN1111C	940	0.64	0.7	4.3	-	1,000 / 1,000	1.22	1.37	145 / 145		20	-	-	50	1.25	60	300	7.5	60	-	-40~+85	-40~+100	4,000	

※製品画像は代表的なものです/All pictures shown are for illustration purposes only. Actual product may vary due to product enhancement.  
 ※1 駆動条件/Driving conditions : 0.1ms pulse 1/100 duty  
 ※2 駆動条件/Driving conditions :  $I_f=20mA_{DC}+10mA_{P-P}$ , -3dB from 1MHz  
 ※3 駆動条件/Driving conditions :  $I_f=20mA_{DC}+10mA_{P-P}$ , -3dB from 0.1MHz

ULTRAVIOLET

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