

**MCD ELECTRONICS INC.**  
8100M4 Wyoming Blvd. NE, # 268 Albuquerque, NM 87113  
Tel: (505) 246-8000 Fax: (505) 246-9101

## DATA SHEET

PART NO. : MCDL-5T8R6G5B6C

REV : A / 0

CUSTOMER'S APPROVAL : \_\_\_\_\_ DCC : \_\_\_\_\_

DRAWING NO. : DS-35-08-0142

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# 5.0 mm DIA LED LAMP

## MCDL-5T8R6G5

RV:A / 0

### FEATURES

- \* SUITABLE HIGH PULSE CURRENT OPERATION
- \* EXTRA HIGH RADIANT POWER AND RADIANT INTENSITY
- \* HIGH RELIABILITY
- \* LOW FORWARD VOLTAGE
- \* Pb FREE PRODUCTS

### CHIP MATERIALS

- \* Dice Material : GaAlInP/Si & GaInN/GaN & GaInN/GaN
- \* Light Color : FULL COLOR(ULTRA ORANGE & ULTRA PURE GREEN & ULTRA BLUE)
- \* Lens Color : WATER CLEAR

ABSOLUTE MAXIMUM RATING : ( Ta = 25°C )

SYMBOL	DESCRIPTION	ULTRA ORANGE	ULTRA PURE GREEN	ULTRA BLUE	UNIT
PD	Power Dissipation Per Chip	85	120	120	mW
VR	Reverse Voltage Per Chip	5	5	5	V
IF	Average Forward Current Per Chip	30	30	30	mA
IPF	Peak Forward Current (Duty=0.1,1KHZ) Per Chip	150	120	70	mA
-	Derating Linear From 25°C Per Chip	0.4	0.4	0.4	mA/°C
Topr	Operating Temperature Range	-25°C to 85°C			
Tstg	Storage Temperature Range	-25°C to 85°C			

### ELECTRO-OPTICAL CHARACTERISTICS : ( Ta = 25°C )

SYMBOL	PARAMETER	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
VF	Forward Voltage	IF=20mA	Ultra Orange	2.25	2.8	V
			Ultra Pure Green	3.5	4.0	V
			Ultra Blue	3.5	4.0	V
IR	Reverse Current	VR=5V	Ultra Orange		100	μA
			Ultra Pure Green		100	μA
			Ultra Blue		100	μA
λD	Dominant Wavelength	IF=20mA	Ultra Orange	624		nm
			Ultra Pure Green	525		nm
			Ultra Blue	470		nm
Δλ	Spectral Line Half-Width	IF=20mA	Ultra Orange	20		nm
			Ultra Pure Green	22		nm
			Ultra Blue	30		nm
2θ1/2	Half Intensity Angle	IF=20mA	Ultra Orange	20		deg
			Ultra Pure Green	20		deg
			Ultra Blue	20		deg
IV	Luminous Intensity	IF=20mA	Ultra Orange	3500		mcd
			Ultra Pure Green	4000		mcd
			Ultra Blue	2000		mcd

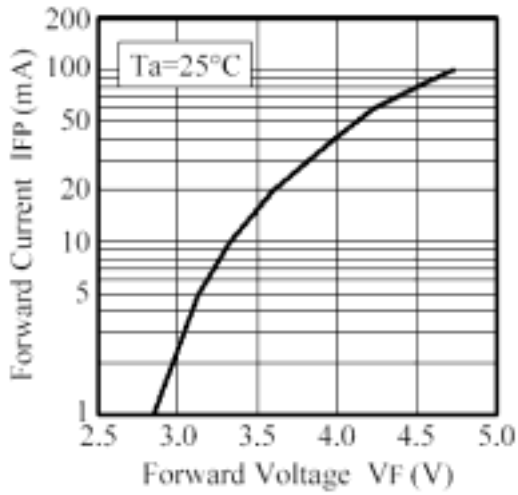
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MCDL-5T8R6G5

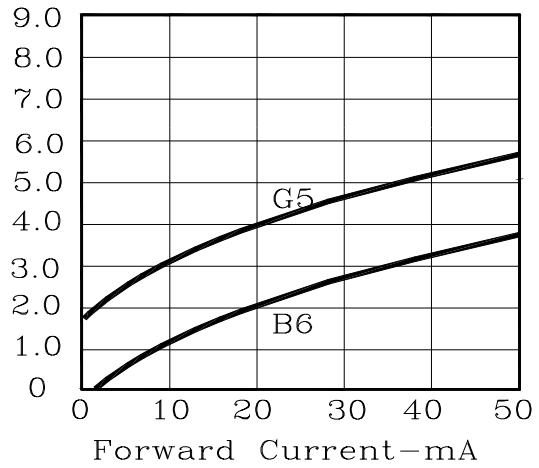
REV:A / 0

## G5 B6

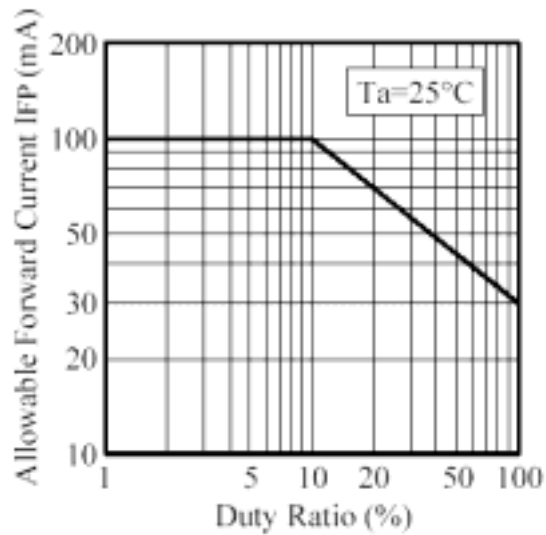
■ Forward Voltage vs. Forward Current



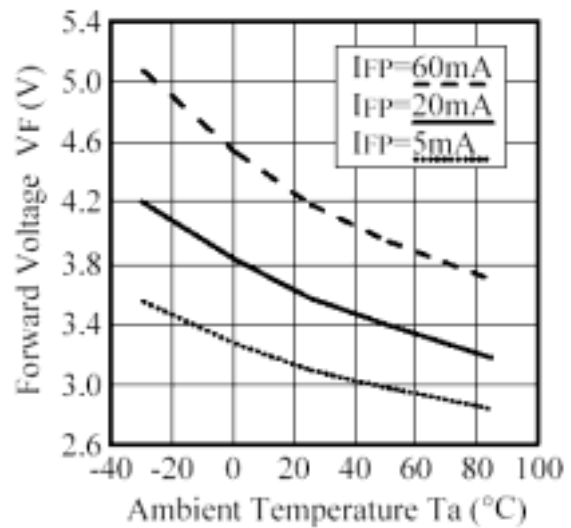
Forward Current vs. Relative luminosity



■ Duty Ratio vs. Allowable Forward Current



■ Ambient Temperature vs. Forward Voltage

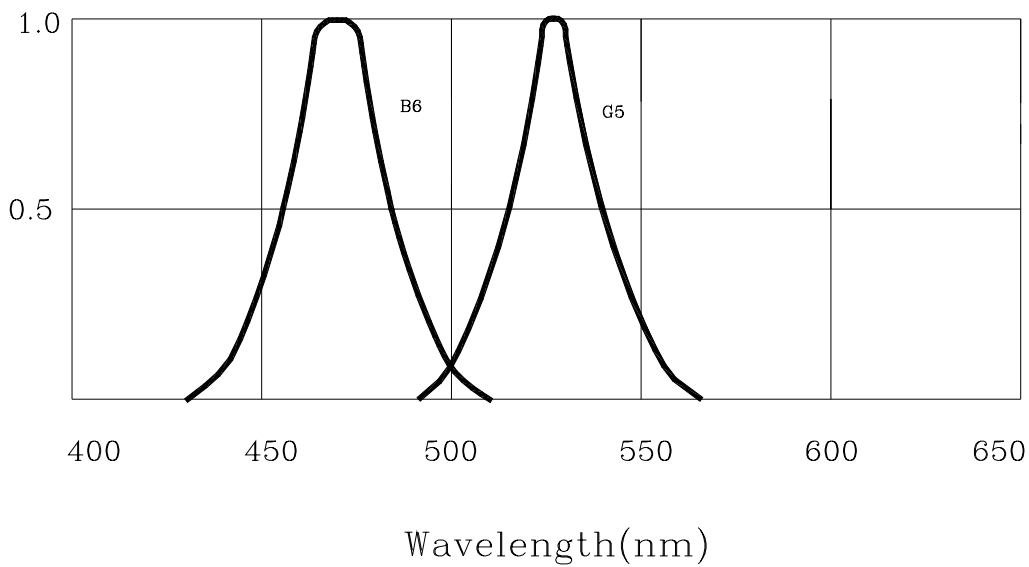
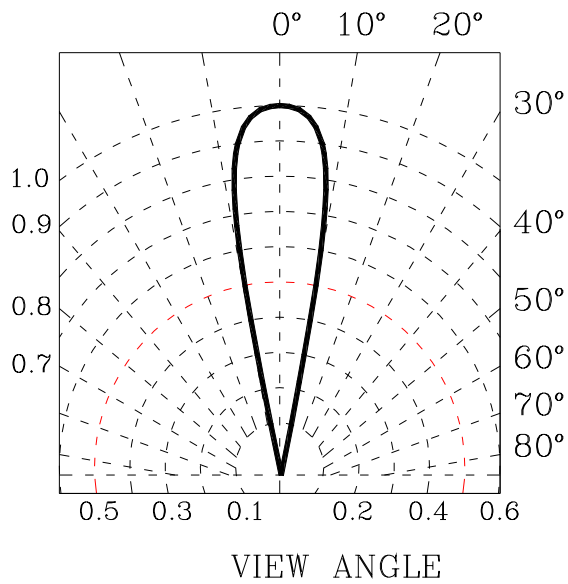


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## MCDL-5T8R6G5B6C

REV:A / 0

**G5 B6**

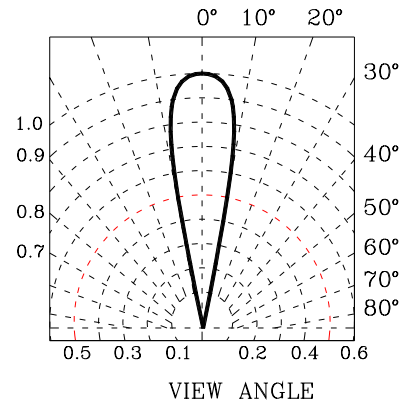
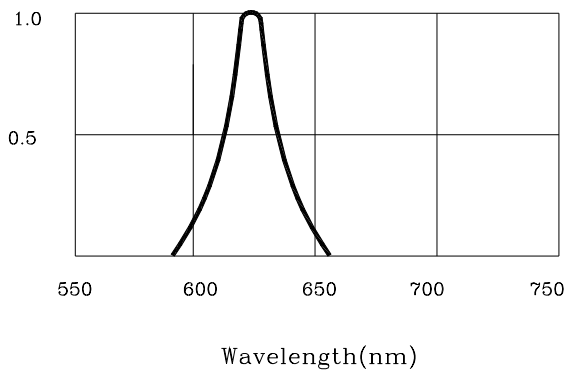
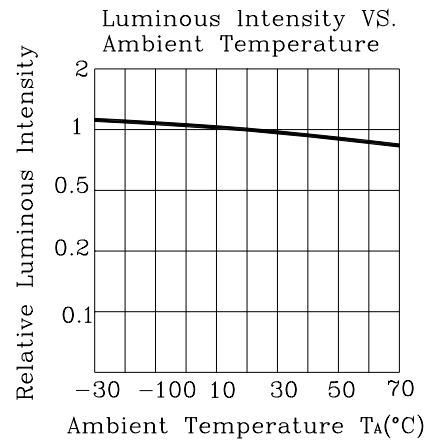
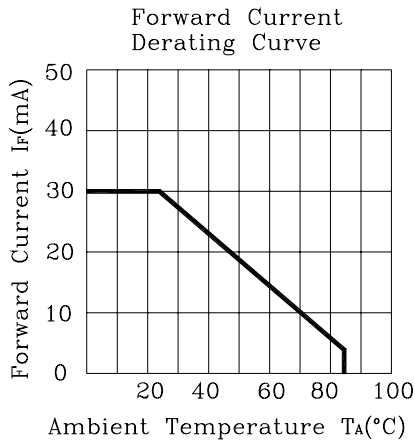
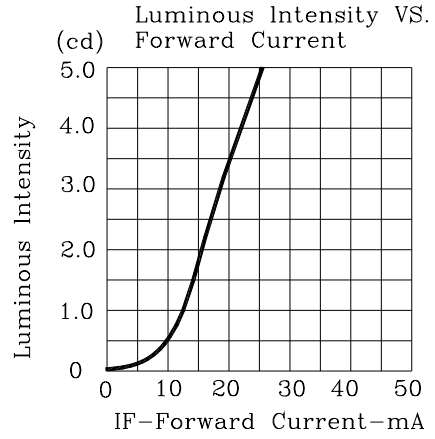
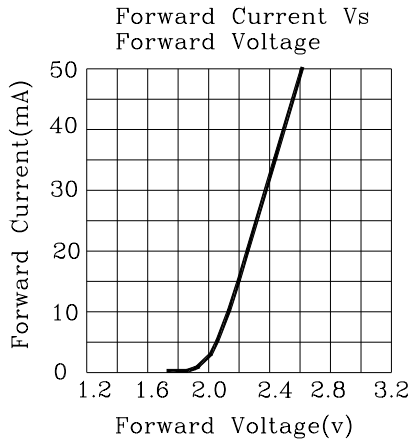


# 5.0 mm DIA LED LAMP

MCDL-5T8R6G5B6

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R6



# 5.0 mm DIA LED LAMP

## MCDL-5T8R6G5B6

REV:A / 0

### Bin Code List

Forward Voltage (VF), Unit:v@20mA					
Bin Code(B6)	Min	Max	Bin Code(G5)	Min	Max
V1	2.88	3.33	V1	2.88	3.33
V2	3.07	3.54	V2	3.07	3.54
V3	3.16	3.74	V3	3.16	3.74
V4	3.46	3.95	V4	3.46	3.95
V5	3.65	4.0	V5	3.65	4.0

Dominant Wavelength( $\lambda_D$ ), Unit:nm@20mA					
Bin Code(B6)	Min	Max	Bin Code(G5)	Min	Max
D3	459	464	D3	509	516
D4	462	467	D4	514	521
D5	465	470	D5	519	526
D6	468	473	D6	524	531
D7	471	475	D7	529	536

Luminous Intensity(IV), Unit:mcd@20mA								
Bin Code(R6)	Min	Max	Bin Code(G5)	Min	Max	Bin Code(B6)	Min	Max
W	1671.3	2339.8	I	1510	2110	G	770	1080
X	2339.8	3275.7	J	2110	2950	H	1080	1510
Y	3275.7	4586	K	2950	4130	I	1510	2110
Z	4586	6421.8	L	4130	5780	J	2110	2950
Z1	6421.8	8027.3	M	5780	8090	K	2950	4130

Tolerance of each bin are  $\pm 15\%$