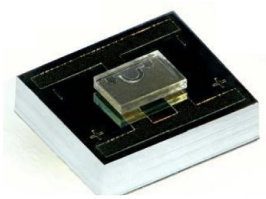
Marktech Optoelectronics

Ultraviolet LED Chip

Product No: **MTC280-UV**

Peak Emission Wavelength: 280nm

The MTC280-UV UV chip is a specifically designed for applications requiring high radiant power output and accuracy.



View of "Die on Silicon Submount (Large)"

FEATURES

> High-Power UV LED Chip
> High Reliability
> Chip Size: 400um x 620um

APPLICATIONS

> Analytical Instruments for Bio Chemical, Medical and Scientific Analysis
> Photo Catalyst / UV Curing
> Medical Phototherapy

Absolute Maximum Ratings (Ta=25°C)

ITEMS	SYMBOL	RATINGS	UNIT
Forward Current	IF	40	mA
Reverse Voltage	VR	5	V
Operating Temperature	Topr	--30 ~ +80	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Soldering Temperature*1	Tsol	300	°C

*1: Within 5 seconds.

Electrical & Optical Characteristics (Ta = 25°C)*1

ITEMS	SYMBOL	CONDITIONS	MIN.	TYP	MAX.	UNIT
Peak Wavelength	λp	IF=20mA	270	280	290	nm
Power Output	PO	IF=20mA	1.0	2.0	--	mW
Spectral Line Half Width	Δλ	IF=20mA	--	10	--	nm
Forward Voltage	VF	IF=20mA	--	7	8	V
Viewing Angle	$2\Theta_{1/2}$	IF=20mA	--	144	--	deg
Reverse Current	IR	VR=5V	--	--	100	μA

*1: All measurements were made using a Au-plated TO5 header without an encapsulant.

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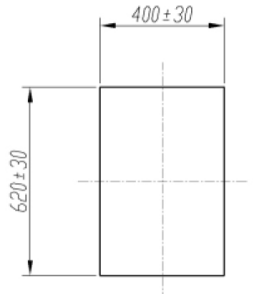
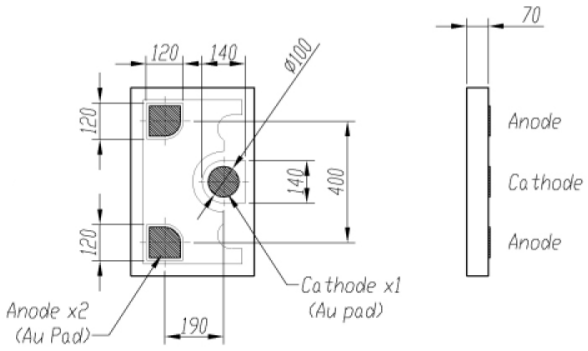
Top View

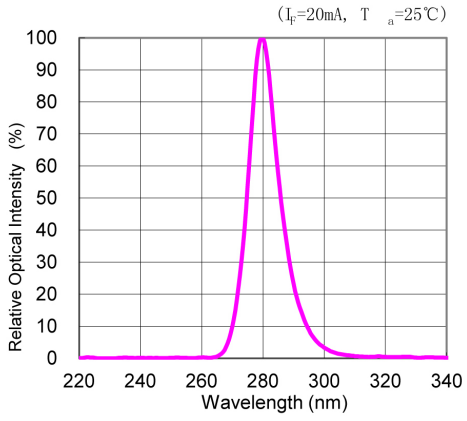


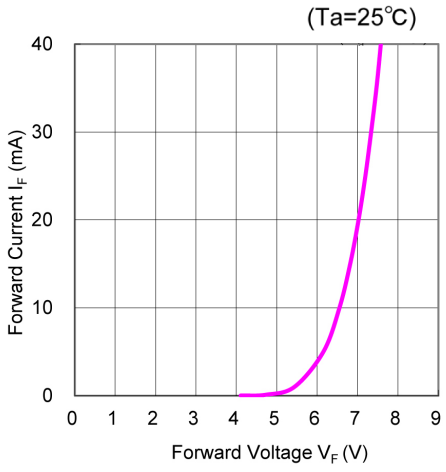
Bottom View

Side View



Unit: um





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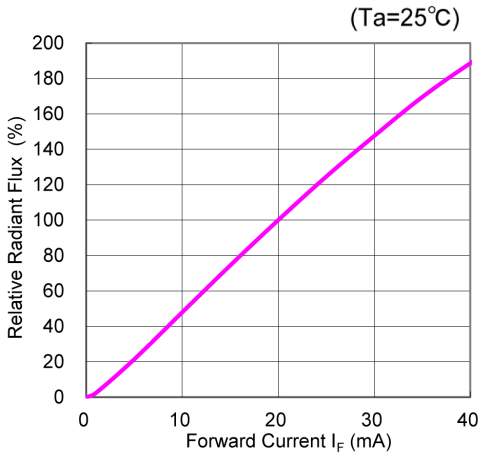
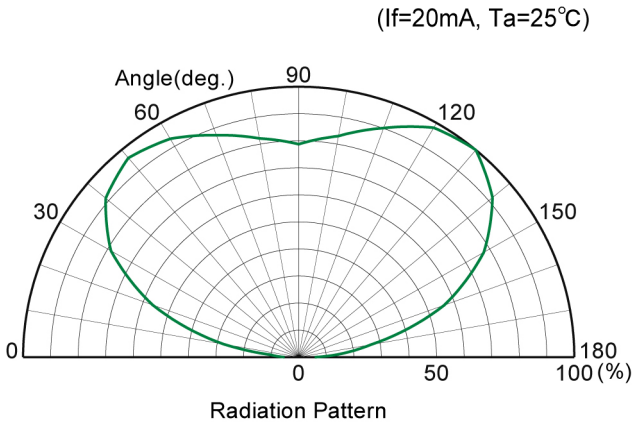
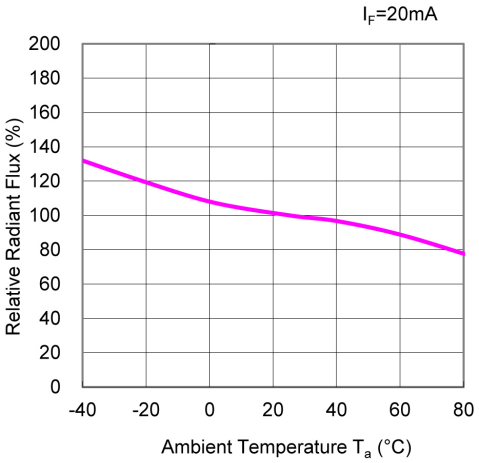
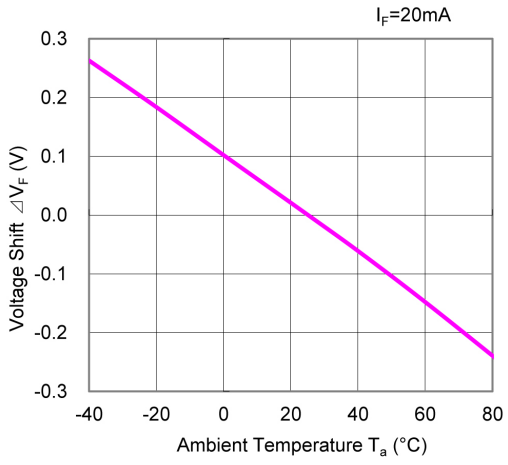

(Ta=25°C)
Relative Radiant Flux (%)
200
180
160
140
120
100
80
60
40
20
0
0
10
20
30
40
Forward Current I_F (mA)


(If=20mA, Ta=25°C)
Angle(deg.)
90
60
120
30
150
0
180
0
50
100 (%)
Radiation Pattern


I_F=20mA
Relative Radiant Flux (%)
200
180
160
140
120
100
80
60
40
20
0
-40
-20
0
20
40
60
80
Ambient Temperature T_a (°C)


I_F=20mA
Voltage Shift $\triangle V_F$ (V)
0.3
0.2
0.1
0.0
-0.1
-0.2
-0.3
-40
-20
0
20
40
60
80
Ambient Temperature T_a (°C)

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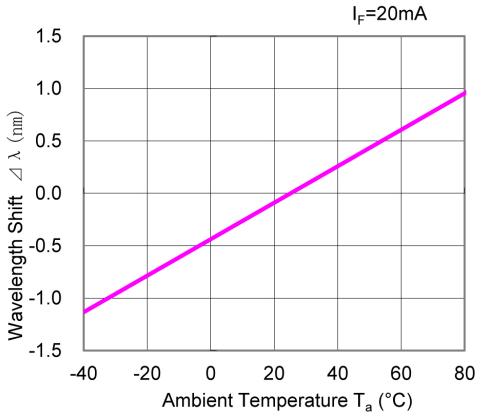

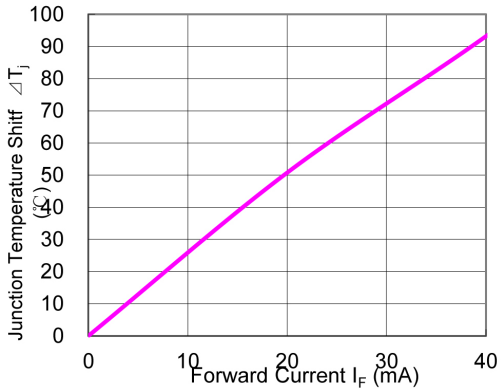

CAUTION

1. LEDs emit very strong UV radiation during operation.
2. Don't look directly into the LED light when in operation as UV radiation can harm your eyes.
3. To prevent even inadequate exposure, wear protective eyewear.
4. If LEDs are embedded in devices, please indicate warning labels against the UV LED used.
5. Avoid prolonged exposure to skin or other tissue during operation.
6. Keep out of reach of children.
7. Take appropriate precautions around pets and other living organisms to avoid UV exposure.
8. Specification and dimension are subject to change without notice.

2014-01-31