

ELECTRO-OPTICAL CHARACTERISTICS $T_A=25^{\circ}\text{C}$ $I_f=1000\text{mA}$						
PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST COND
FORWARD VOLTAGE	$V_f$	9.3	10.4	11.5	V	$I_f=1000\text{mA}$
REVERSE VOLTAGE	$V_r$	15			V	$I_r=10\mu\text{A}$
LUMINOUS FLUX	$I_v$	430	530		lm	$I_f=1000\text{mA}$
COLOR TEMPERATURE		2870	3000	3220	K	
VIEWING ANGLE			120		$2x$ theta	
EMITTED COLOR:	WARM WHITE					
EPOXY LENS FINISH:	WATER CLEAR LENS					

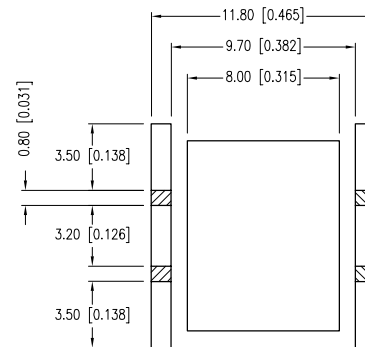
LIMITS OF SAFE OPERATION AT $25^{\circ}\text{C}$		
PARAMETER	MAX	UNITS
PEAK FORWARD CURRENT	1200	mA
STEADY CURRENT	1000	mA
POWER DISSIPATION	11.5	mW
OPERATING TEMP.	-40 TO +90	$^{\circ}\text{C}$
STORAGE TEMP.	-40 TO +100	$^{\circ}\text{C}$

THERMAL PARAMETERS		
PARAMETER	MAX	UNITS
JUNCTION TEMPERATURE	110	$^{\circ}\text{C}$
THERMAL RESISTANCE (JUNCTION/SOLDER)	3.5	$^{\circ}\text{C}/\text{W}$
TEMPERATURE COEFFICIENT OF $V_f$	-5.6	$\text{mV}/^{\circ}\text{C}$

CAUTION: MOISTURE SENSITIVE DEVICE  
PER JEDEC LEVEL 2 STANDARDS

CAUTION: STATIC SENSITIVE DEVICE  
FOLLOW PROPER E.S.D. HANDLING PROCEDURES  
WHEN WORKING WITH THIS PART.

RECOMMENDED SOLDER PAD LAYOUT



\*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN.= +DECIMAL PRECISION MAX.= +0.00 -DECIMAL PRECISION UNCONTROLLED DOCUMENT



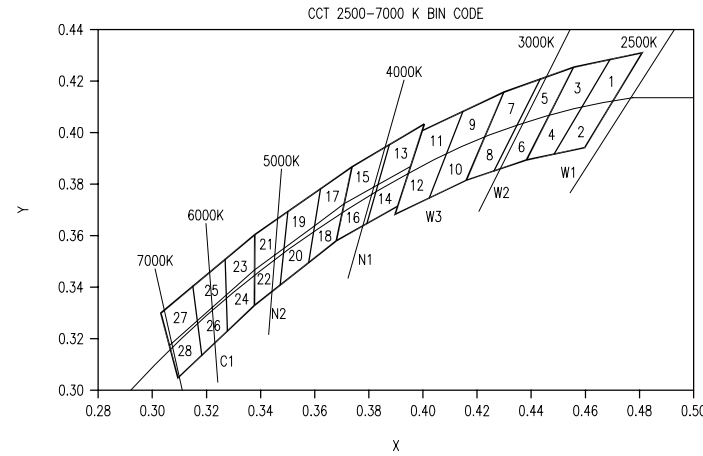
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12mm x 12mm SURFACE MOUNT LED, WARM WHITE.

\*\*THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE DUE TO NEW MATERIALS OR PRODUCT IMPROVEMENT.\*\*

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UNIT:	mm [INCH]		Ⓟ



COLOR	GROUP	CHROMATICITY REGIONS	MIN.	TYP.	MAX.
WARM WHITE	W1	1,2,3,4	2580	2700	2870
	W2	5,6,7,8	2870	3000	3220
	W3	9,10,11,12	3220	3500	3710
WARM WHITE	N1	13,14,15,16	3710	4000	4260
	N2	17,18,19,20,21,22	4260	4700	5310
COOL WHITE	C1	23,24,25,26,27,28	5310	6000	7040

	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y					
1	0.4582	0.4099	6	0.4259	0.3853	11	0.3941	0.3848	16	0.3670	0.3578	21	0.3496	0.3702			
	0.4687	0.4289		0.4342	0.4028		0.3996	0.4015		0.3702	0.3722		0.3376	0.3616	26	0.3160	0.3274
	0.4813	0.4319		0.4465	0.4071		0.4146	0.4089		0.3825	0.3798		0.3370	0.3472		0.3175	0.3139
0.4700	0.4126	0.4373	0.3893	0.4080	0.3916	0.3783	0.3646	0.3481	0.3557	0.3270	0.3230						
2	0.4483	0.3919	7	0.4221	0.3984	12	0.3889	0.3690	17	0.3736	0.3874	22	0.3481	0.3557			
	0.4582	0.4099		0.4299	0.4165		0.3941	0.3848		0.3616	0.3788		0.3370	0.3472	27	0.3028	0.3304
	0.4700	0.4126		0.4430	0.4212		0.4080	0.3916		0.3592	0.3641		0.3364	0.3328		0.3055	0.3177
0.4593	0.3944	0.4342	0.4028	0.4017	0.3751	0.3703	0.3726	0.3466	0.3411	0.3160	0.3274						
3	0.4465	0.4071	8	0.4147	0.3814	13	0.3825	0.3798	18	0.3703	0.3726	23	0.3376	0.3616			
	0.4562	0.4260		0.4221	0.3984		0.3869	0.3959		0.3592	0.3641		0.3260	0.3512	28	0.3055	0.3177
	0.4687	0.4289		0.4342	0.4028		0.4006	0.4044		0.3568	0.3495		0.3265	0.3371		0.3081	0.3049
0.4582	0.4099	0.4259	0.3853	0.3950	0.3875	0.3670	0.3578	0.3370	0.3472	0.3175	0.3139						
4	0.4373	0.3893	9	0.4080	0.3916	14	0.3783	0.3646	19	0.3616	0.3788	24	0.3370	0.3472			
	0.4465	0.4071		0.4146	0.4089		0.3825	0.3798		0.3496	0.3702		0.3265	0.3371	25	0.3144	0.3408
	0.4582	0.4099		0.4299	0.4165		0.3950	0.3875		0.3481	0.3557		0.3270	0.3230		0.3160	0.3274
0.4483	0.3919	0.4221	0.3984	0.3898	0.3716	0.3592	0.3641	0.3364	0.3328	0.3265	0.3371						
5	0.4342	0.4028	10	0.4017	0.3751	15	0.3702	0.3722	20	0.3592	0.3641	25	0.3260	0.3512			
	0.4430	0.4212		0.4080	0.3916		0.3736	0.3874		0.3481	0.3557		0.3144	0.3408	26	0.3160	0.3274
	0.4562	0.4260		0.4221	0.3984		0.3869	0.3958		0.3466	0.3411		0.3160	0.3274		0.3265	0.3371
0.4465	0.4071	0.4147	0.3814	0.3825	0.3798	0.3568	0.3495	0.3265	0.3371								

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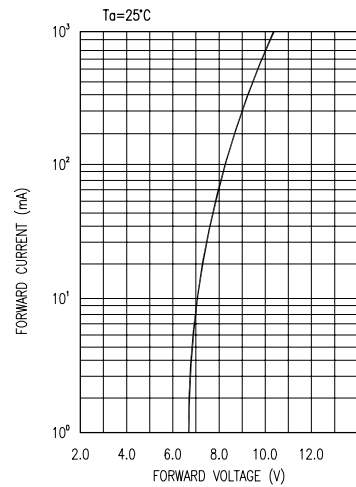
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12mm x 12mm SURFACE MOUNT LED, WARM WHITE.

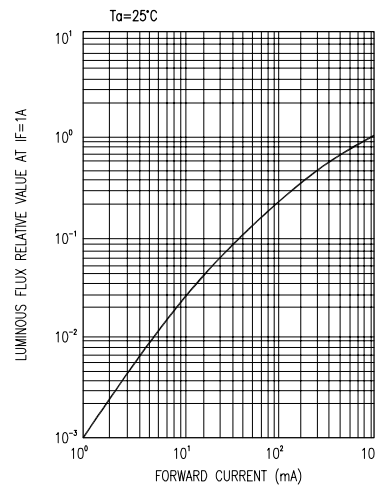
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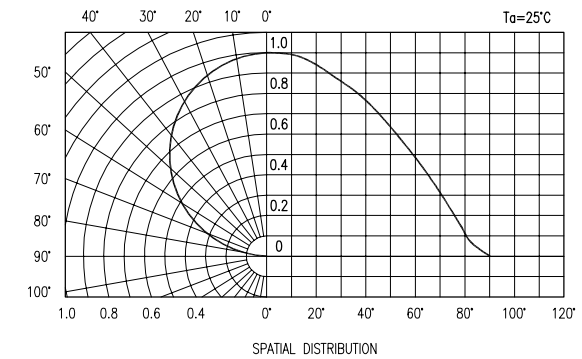
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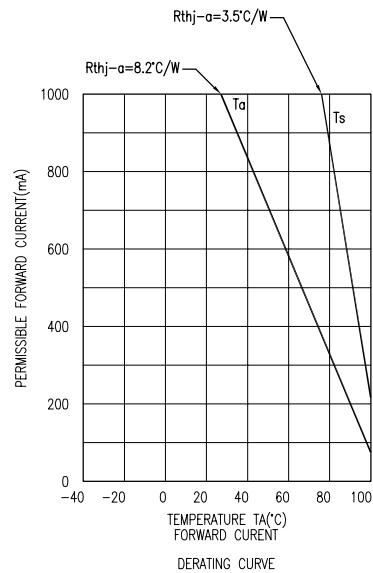
FORWARD CURRENT VS FORWARD VOLTAGE



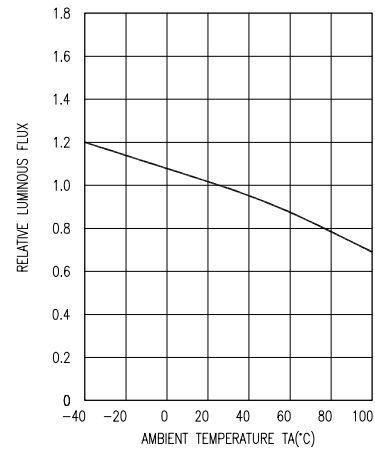
LUMINOUS FLUX VS FORWARD CURRENT



SPATIAL DISTRIBUTION



DERATING CURVE



LUMINOUS FLUX VS AMBIENT TEMPERATURE

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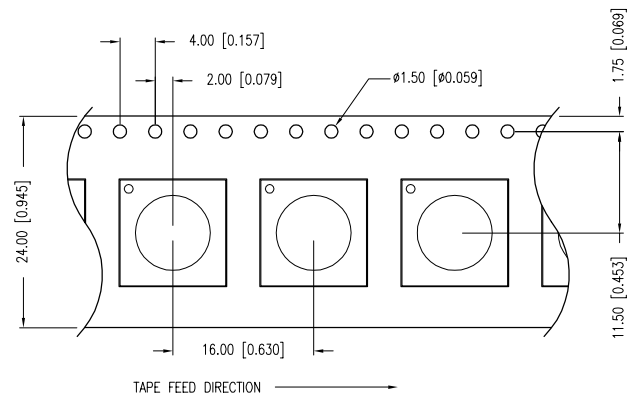
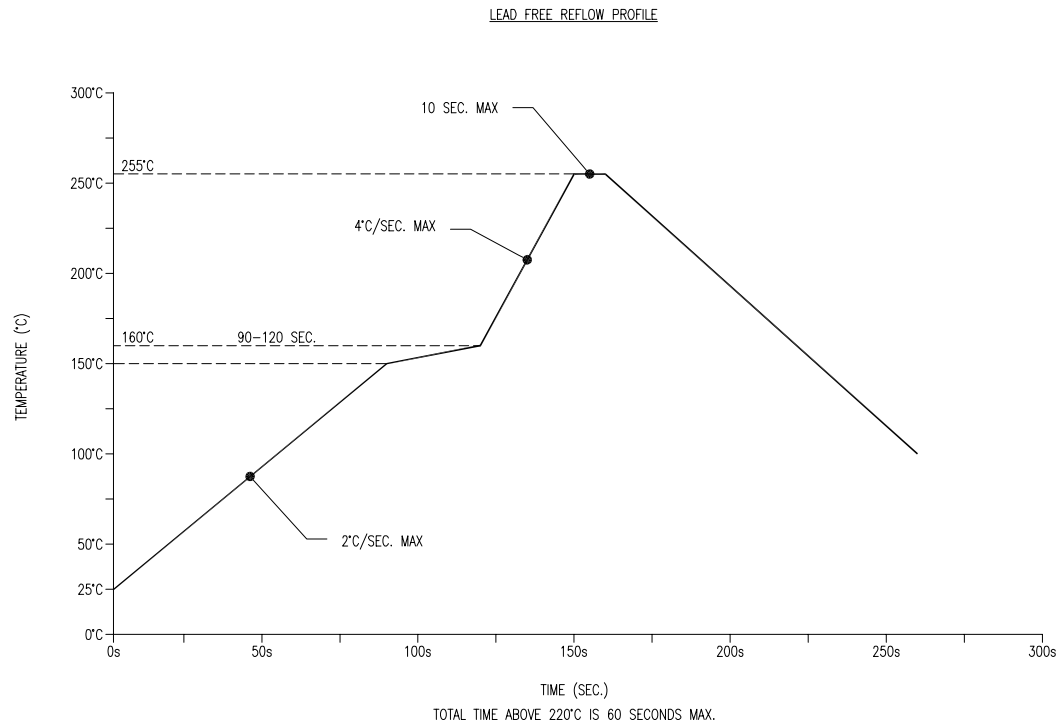
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