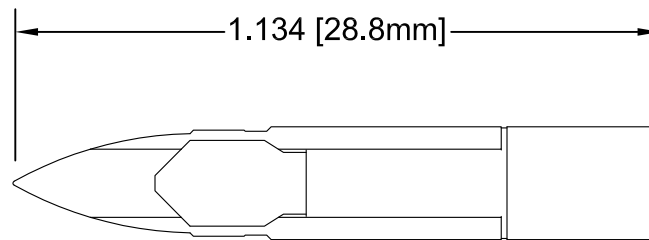
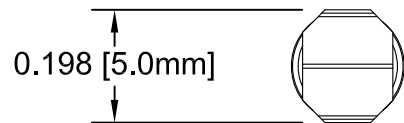
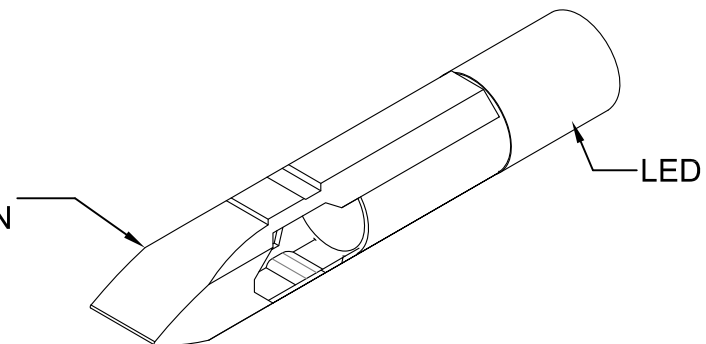




REV.	DESCRIPTION	DATE	APPROVED
<b>A</b>	Engineering Release	<b>10/21/13</b>	<b>G. W.</b>



TELEPHONE SLIDE  
ANODE IDENTIFIED BY PLUS SIGN



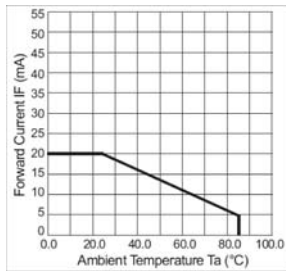
NOTES:  
1. DIRECT REPLACEMENT FOR Ts5.5 (T5.5 TELEPHONE SLIDE) BASED LAMPS

STANDARD TOLERANCE ( UNLESS OTHERWISE SPECIFIED )		 <b>BIVAR</b> <sup>®</sup> 4 THOMAS, IRVINE, CA. 92618				
DECIMALS	ANGULAR					
.X ± .1	X° ± 1°		TITLE: 209 SERIES INCANDESCENT REPLACEMENT LED			
.XX ± .02			DESIGNED: <b>Alex Wright</b>	DATE: <b>10/21/13</b>	PART NO: <b>LFR-209X-XXX</b>	REVISION: <b>A</b>
.XXX ± .010			CHECKED: <b>Minh Doan</b>	DATE: <b>10/21/13</b>	CAGE CODE : <b>32559</b>	SHEET # <b>1 OF 2</b>
CAD GENERATED DOCUMENT, DO NOT MEASURE DRAWING.						

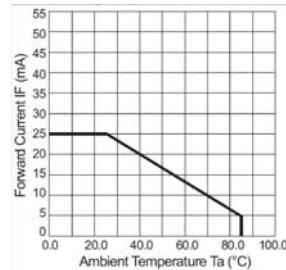
REV.	DESCRIPTION	DATE	APPROVED
	SEE SHEET #1		

## DERATING CURVES

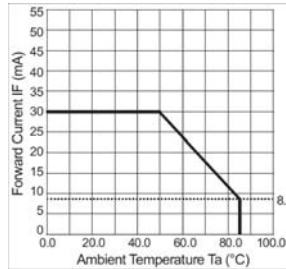
Derating Graph 1



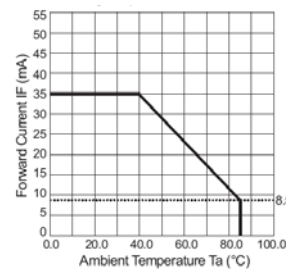
Derating Graph 2



Derating Graph 3




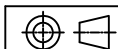
Derating Graph 4



Bivar Part Number	Wave Length $\lambda_p$ (nm)	Emitted Color	Lens Appearance	Operating Voltage	Electro-Optical Data		Viewing Angle	De-rating Graphs
				Vf (Vdc)	Current DC (mA)	Iv (mcd)		
				TYP	TYP	TYP		
LFR-209R12V	630	RED	CLEAR	12	20	600	120	1
LFR-209R28V	630	RED	CLEAR	28	20	600	120	1
LFR-209Y12V	585	YELLOW	CLEAR	12	20	600	120	1
LFR-209Y28V	585	YELLOW	CLEAR	28	20	600	120	1
LFR-209G12V	515	GREEN	CLEAR	12	20	800	120	2
LFR-209G24V	515	GREEN	CLEAR	24	20	800	120	2
LFR-209G28V	515	GREEN	CLEAR	28	20	800	120	2
LFR-209B12V	465	BLUE	CLEAR	12	20	230	120	4
LFR-209B28V	465	BLUE	CLEAR	28	20	230	120	4
Bivar Part Number	Chromaticity Coordinates	Emitted Color	Lens Appearance	Operating Voltage	Electro-Optical Data		Viewing Angle	De-rating Graphs
				Vf (Vdc)	Current DC (mA)	Iv (mcd)		
				TYP	TYP	TYP		
LFR-209WW12V	X=0.4255~0.4680 Y=0.4000~0.4385	WARM WHITE	CLEAR	12	20	850	120	3
LFR-209WW28V	X=0.4255~0.4680 Y=0.4000~0.4385	WARM WHITE	CLEAR	28	20	850	120	3
LFR-209CW12V	X=0.31 Y=0.32	COOL WHITE	CLEAR	12	20	1100	120	3
LFR-209CW28V	X=0.31 Y=0.32	COOL WHITE	CLEAR	28	20	1100	120	3

## ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

MAXIMUM POWER DISSIPATION \_\_\_\_\_ 500 mW  
 OPERATING TEMPERATURE RANGE \_\_\_\_\_  $-40^\circ\text{C} \sim 85^\circ\text{C}$   
 STORAGE TEMPERATURE \_\_\_\_\_  $-40^\circ\text{C} \sim 100^\circ\text{C}$

STANDARD TOLERANCE ( UNLESS OTHERWISE SPECIFIED )		 4 THOMAS, IRVINE, CA. 92618 TEL: (949) 951-8808 FAX: (949) 951-3974	
DECIMALS	ANGULAR		
DESIGNED: <b>Alex Wright</b>	DATE: <b>10/21/13</b>	 <b>TITLE: 209 SERIES INCANDESCENT REPLACEMENT LED</b>	
CHECKED: <b>Minh Doan</b>	DATE: <b>10/21/13</b>	<b>PART NO:</b> LFR-209X-XXX	<b>REVISION:</b> A
		<b>CAGE CODE : 32559</b>	<b>SHEET # 2 OF 2</b>
CAD GENERATED DOCUMENT, DO NOT MEASURE DRAWING.			