

3 Product List for Lead Type

1. Electrical and Optical Characteristics

Toshiba produces an extensive product line of newly developed ultra-high-brightness red, orange, yellow, green and pure green LEDs using InGaAlP material and optimum lens design. Toshiba high-brightness LED lamps will help you to choose the most suitable type for your application.

Type I (Three digits type)

Series Name	Absolute Maximum Ratings					Electrical / Optical Characteristics								
	DC forward current I _F (mA)	DC reverse voltage V _R (V)	Power dissipation P _D (mW)	Operating temperature T _{opr} (°C)	Storage temperature T _{stg} (°C)	Forward voltage V _F (V)			Reverse current I _R (μA)		Standard emission wavelength characteristics (nm)			
						typ.	max	I _F (mA)	max	V _R (V)	Peak wavelength λ _p	Half width Δλ	Dominant wavelength λ _d	I _F (mA)
TLRH Series	50	4	125	-30~85	-40~120	1.9	2.5	20	50	4	644	18	630	20
TLRMH Series	50	4	125	-40~100	-40~120	2.05	2.5	20	50	4	636	20	626	20
TLRE Series	50	4	125	-30~85	-40~120	1.85	2.4	20	50	4	644	18	630	20
TLSH Series	50	4	125	-30~85	-40~120	2.1	2.5	20	50	4	623	15	613	20
TLSE Series	50	4	125	-30~85	-40~120	1.95	2.4	20	50	4	623	15	613	20
TLSU Series	30	4	72	Note 1	—	2.0	2.4	20	50	4	636	17	623	20
TLOH Series	50	4	125	-30~85	-40~120	2.1	2.5	20	50	4	612	15	605	20
TLOE Series	50	4	125	-30~85	-40~120	1.95	2.4	20	50	4	612	15	605	20
TLOU Series	30	4	72	Note 2	—	2.0	2.4	20	50	4	612	15	605	20
TLYH Series	50	4	125	-30~85	-40~120	2.1	2.5	20	50	4	590	13	587	20
TLYE Series	50	4	125	-30~85	-40~120	2.1	2.5	20	50	4	590	13	587	20
TLYU Series	30	4	75	Note 3	—	2.1	2.5	20	50	4	590	13	587	20
TLGE Series	50	4	140	-30~85	-40~120	2.27	2.8	20	50	4	574	11	571	20
TLPGE Series	50	4	140	-30~85	-40~120	2.27	2.8	20	50	4	562	11	558	20

* Some individual product specifications may differ from the series specifications given above. Please check the characteristics for each device.

Note 1: For operating and storage temperatures, please see page 14, 15.

Note 2: For operating and storage temperatures, please see page 18, 19.

Note 3: For operating and storage temperatures, please see page 20, 21.

Type II (Two digits type)

Series Name	Absolute Maximum Ratings					Electrical / Optical Characteristics								
	DC forward current I _F (mA)	DC reverse voltage V _R (V)	Power dissipation P _D (mW)	Operating temperature T _{opr} (°C)	Storage temperature T _{stg} (°C)	Forward voltage V _F (V)			Reverse current I _R (μA)		Standard emission wavelength characteristics (nm)			
						typ.	max	I _F (mA)	max	V _R (V)	Peak wavelength λ _p	Half width Δλ	Dominant wavelength λ _d	I _F (mA)
TLRE Series	50	4	120	-40~100	-40~120	1.9	2.4	20	50	4	644	20	630	20
TLRMH Series	50	4	120	-40~100	-40~120	1.9	2.4	20	50	4	636	13	626	20
TLRME Series	50	4	120	-40~100	-40~120	1.9	2.4	20	50	4	636	23	626	20
TLSH Series	50	4	120	-40~100	-40~120	2.0	2.4	20	50	4	623	13	613	20
TLSE Series	50	4	120	-40~100	-40~120	1.9	2.4	20	50	4	623	20	613	20
TLOH Series	50	4	120	-40~100	-40~120	2.0	2.4	20	50	4	612	13	605	20
TLOE Series	50	4	120	-40~100	-40~120	2.0	2.4	20	50	4	612	20	605	20
TLYH Series	50	4	120	-40~100	-40~120	2.0	2.4	20	50	4	590	13	587	20
TLYE Series	50	4	120	-40~100	-40~120	2.0	2.4	20	50	4	590	17	587	20
TLPYE Series	50	4	120	-40~100	-40~120	2.0	2.4	20	50	4	583	14	580	20
TLGE Series	50	4	120	-40~100	-40~120	2.0	2.4	20	50	4	574	17	571	20
TLGU Series	30	4	72	-40~100	-40~120	2.1	2.4	20	50	4	574	17	571	20
TLPGE Series	50	4	120	-40~100	-40~120	2.0	2.4	20	50	4	568	15	565	20
TLPGE Series	50	4	120	-40~100	-40~120	2.1	2.4	20	50	4	562	14	558	20
TLPGU Series	30	4	72	-40~100	-40~120	2.1	2.4	20	50	4	562	14	558	20

* Some individual product specifications may differ from the series specifications given above. Please check the characteristics for each device.

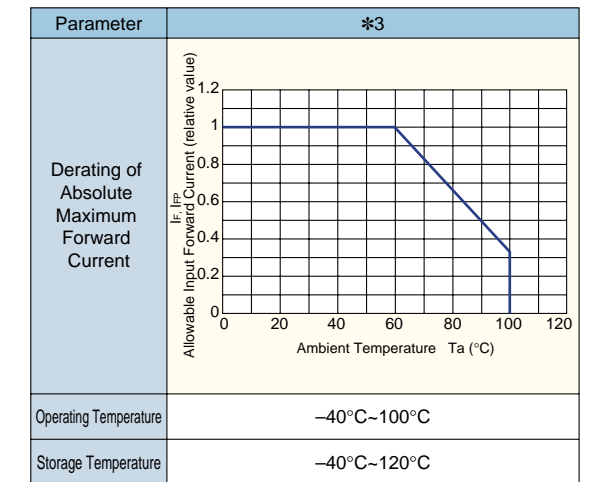
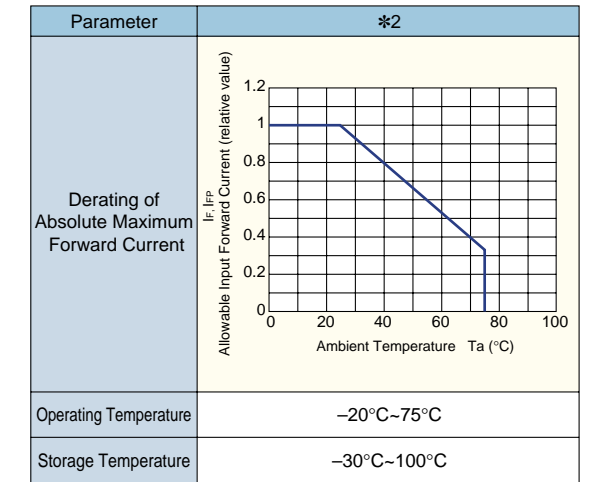
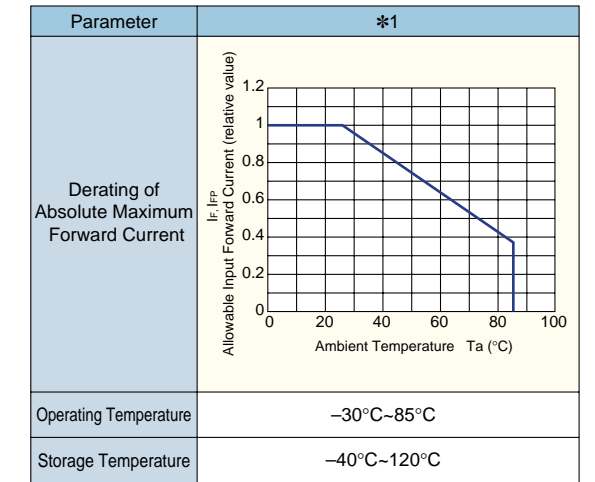
3 Product List for Lead Type

2. High-Brightness Red LED Lamps

@Ta = 25°C

Series Name	Package Size (mm)	Viewing Angle 2θ1/2	Intensity I _v (mcd) @ I _F = 20 mA		Product Number		Typical Emitting Wavelength		Lens Type	Absolute Maximum Ratings			Package Dimension Number	Typical Applications	
			Min	Typ.	Open rank	Rank specified	λ _d (nm)	λ _p (nm)		Guaranteed Temperature	DC Forward Current I _F (mA)	Pulse Forward Current I _{FP} (mA)			
TL*H Series	ø10	4°	4760	19000	TLRH190P	TLRH190P(WX)	630	644	Transparent	*1	50	200	ø10-1	Traffic light	
		7°	4760	11000	NEW TLSH20TP	—	613	623	Transparent	*3	50	200	ø5-1	Pilot lamps (narrow range)	
			2720	9000	NEW TLRMH20TP	—	626	636	Transparent	*3	50	200	ø5-1		
		8°	2720	10000	TLSH180P	TLSH180P(VW)	613	623	Transparent	*1	50	200	ø5-1		
			1530	5000	TLRH180P	TLRH180P(UV)	630	644	Transparent	*1	50	200	ø5-1		
		12°	2720	6500	NEW TLSH38TP	—	613	623	Transparent	*3	50	200	ø5-4		
			1530	4800	NEW TLRMH38TP	—	626	636	Transparent	*3	50	200	ø5-4		
		15°	1530	4200	TLRMH151P	—	626	636	Transparent	*3	50	200	ø5-4		
			20°	1530	4500	NEW TLSH17TP	—	613	623	Transparent	*3	50	200	ø5-2	
		ø5		20°	850	3200	NEW TLRMH17TP	—	626	636	Transparent	*3	50	200	ø5-2
	850		2700		TLSH157P	TLSH157P(ST)	613	623	Transparent	*1	50	200	ø5-2		
	22°		850	2240	TLRMH157P	—	626	636	Transparent	*3	50	200	ø5-2		
			476	1700	TLRH157P	TLRH157P(ST)	630	644	Transparent	*1	50	200	ø5-2		
	25°		850	1900	NEW TLSH16TP	—	613	623	Transparent	*3	50	200	ø5-3		
			476	1500	NEW TLRMH16TP	—	626	636	Transparent	*3	50	200	ø5-3		
	30°		476	900	TLRMH156P	—	626	636	Transparent	*3	50	200	ø5-3		
			476	1400	TLSH156P	TLSH156P(RS)	613	623	Transparent	*1	50	200	ø5-3		
	35°		272	800	TLRH156P	TLRH156P(QR)	630	644	Transparent	*1	50	200	ø5-3		
			272	650	TLRMH265P	—	626	636	Milky-white, diffusing	*3	50	200	ø5-3		
	ø3	10°	2720	4500	TLSH160	—	613	623	Transparent	*1	50	200	ø3-3	Pilot lamps	
850			1800	TLRH160	TLRH160(ST)	630	644	Transparent	*1	50	200	ø3-3			
40°		272	800	TLSH125	—	613	623	Transparent	*1	50	200	ø3-4			
Elliptical 5 X 5.8	30°/60°	85	220	TLRH262	TLRH262(NP)	630	644	Transparent	*1	50	200	ø3-2	Message board (wide range)		
		153	450	TLRH247	TLRH247(PQ)	630	644	Transparent	*1	50	200	Elliptical-1	Message board		
TL*U Series	ø5	6°	1530	4500	TLSU180P	TLSU180P(TU)	623	636	Transparent	*1	30	120	ø5-1	Pilot lamps (narrow range)	
		20°	272	900	TLSU156P	TLSU156P(QR)	623	636	Transparent	*1	30	120	ø5-3	Message board Backlighting	
		30°	153	550	TLSU113P	—	623	636	Red, transparent	*2	30	120	ø5-5		
		40°	47.6	250	TLSU114P	TLSU114P(NP)	623	636	Red, diffusing	*2	30	120	ø5-5		
	ø3	9°	476	4000	TLSU163	—	623	636	Pale red, transparent	*1	30	120	ø3-3	Pilot lamps	
			476	1600	TLSU160	—	623	636	Transparent	*1	30	120	ø3-3		
		18°	153	450	TLSU164	—	623	636	Pale red, diffusing	*1	30	120	ø3-3		
			153	300	TLSU125	TLSU125(PQ)	623	636	Transparent	*1	30	120	ø3-4		
		35°	85	270	TLSU123	TLSU123(PQ)	623	636	Red, transparent	*2	30	120	ø3-4		
			85	180	TLSU126	—	623	636	Milky-white, diffusing	*1	30	120	ø3-4		
		40°	47.6	100	TLSU124	TLSU124(MN)	623	636	Red, diffusing	*2	30	120	ø3-4		
			47.6	170	TLSU262	TLSU262(NP)	623	636	Transparent	*1	30	120	ø3-2		
		80°	47.6	130	NEW TLSU268G◆	—	623	636	Transparent	*1	30	120	ø3-5		Backlighting (wide range)

◆: Mount flush with PCB



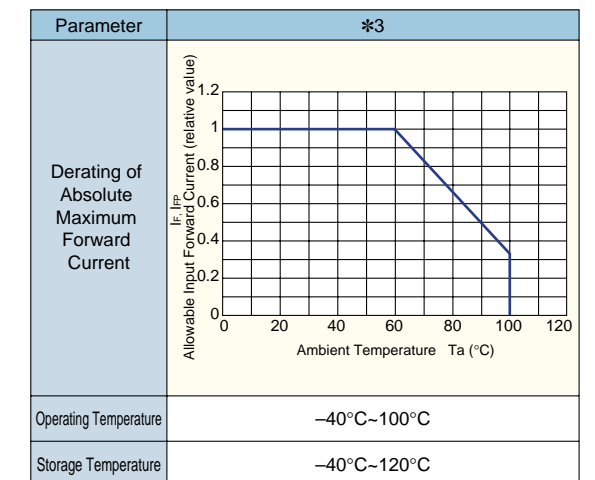
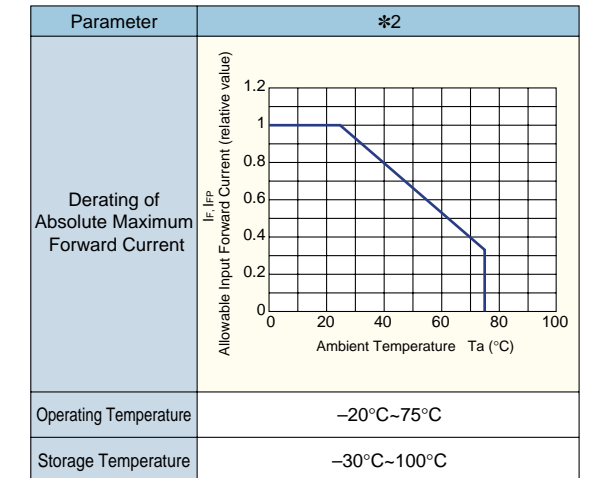
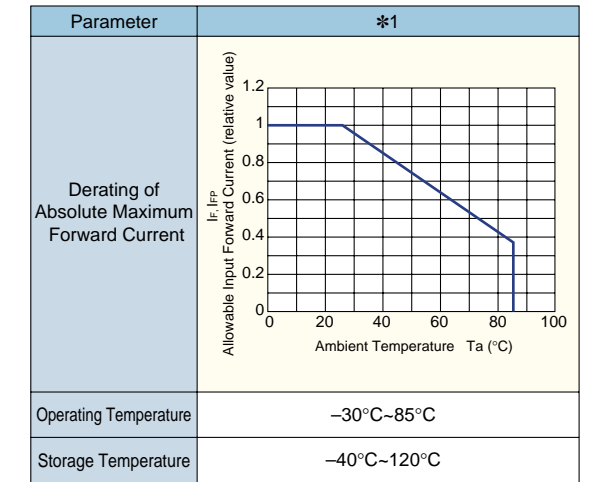
3 Product List for Lead Type

2. High-Brightness Red LED Lamps

@Ta = 25°C

Series Name	Package Size (mm)	Viewing Angle 2θ1/2	Intensity I _v (mcd) @I _F = 20 mA		Product Number		Typical Emitting Wavelength		Lens Type	Absolute Maximum Ratings			Package Dimension Number	Typical Applications
			Min	Typ.	Open rank	Rank specified	λ _d (nm)	λ _p (nm)		Guaranteed Temperature	DC Forward Current I _F (mA)	Pulse Forward Current I _{FP} (mA)		
TL*E Series	ø5	7°	2720	9000	TLSE20TP	—	613	623	Transparent	*3	50	200	ø5-1	Pilot lamps (narrow range) Message board Backlighting Backlighting (wide range)
			2720	8000	TLRME20TP	—	626	636	Transparent	*3	50	200	ø5-1	
			2720	7000	TLRE20TP	—	630	644	Transparent	*3	50	200	ø5-1	
		8°	1530	8000	TLSE180P	—	613	623	Transparent	*1	50	200	ø5-1	
			850	3000	TLRE180AP	TLRE180AP(TU)	630	644	Transparent	*1	50	200	ø5-1	
		20°	850	3000	TLSE17TP	—	613	623	Transparent	*3	50	200	ø5-2	
			850	2400	TLRME17TP	—	626	636	Transparent	*3	50	200	ø5-2	
			476	1500	TLRE17TP	—	630	644	Transparent	*3	50	200	ø5-2	
		22°	85	270	TLRE138P	—	630	644	Red, diffusing	*1	50	200	ø5-2	
			476	1900	TLSE157P	TLSE157P(ST)	613	623	Transparent	*1	50	200	ø5-2	
		25°	272	1000	TLRE157AP	TLRE157AP(RS)	630	644	Transparent	*1	50	200	ø5-2	
			476	1500	TLSE16TP	—	613	623	Transparent	*3	50	200	ø5-3	
		30°	476	1000	TLSE16CP	—	613	623	Red, transparent	*3	50	200	ø5-3	
			272	1200	TLRME16TP	—	626	636	Transparent	*3	50	200	ø5-3	
			272	800	TLRE16TP	—	630	644	Transparent	*3	50	200	ø5-3	
			153	600	TLRE16CP	—	630	644	Red, transparent	*3	50	200	ø5-3	
		75°	153	500	TLRME17DP	—	626	636	Red, diffusing	*3	50	200	ø5-2	
			272	900	TLSE156P	TLSE156P(RS)	613	623	Transparent	*1	50	200	ø5-3	
	90°	153	450	TLRE156AP	TLRE156AP(PQ)	630	644	Transparent	*1	50	200	ø5-3		
		47.6	150	TLRE25TP	—	613	644	Transparent	*3	50	200	ø5-6		
	130°	27.2	80	TLRE263AP	TLRE263AP(MN)	630	644	Transparent	*1	50	200	ø5-6		
		8.5	20	TLRE11TP	—	613	644	Transparent	*3	50	200	ø5-7		
	150°	8.5	15	TLRE261AP	—	630	644	Transparent	*1	50	200	ø5-7		
		ø3	10°	476	1200	TLRE160A	TLRE160A(RS)	630	644	Transparent	*1	50	200	ø3-3
	1530			3500	TLSE50T	—	613	623	Transparent	*3	50	200	ø3-3	
	16°		850	2200	TLRME50T	—	626	636	Transparent	*3	50	200	ø3-3	
			850	1800	TLRE50T	—	630	644	Transparent	*3	50	200	ø3-3	
	45°		272	800	TLSE53T	—	613	623	Transparent	*3	50	200	ø3-4	
272			600	TLRME53T	—	626	636	Transparent	*3	50	200	ø3-4		
80°	153	400	TLRE53T	—	630	644	Transparent	*3	50	200	ø3-4			
	85	330	NEW TLRME68TG◆	—	626	636	Transparent	*3	50	200	ø3-5			
	85	200	TLSE62T	—	613	623	Transparent	*3	50	200	ø3-2			
	47.6	180	TLRME62T	—	626	636	Transparent	*3	50	200	ø3-2			
	47.6	150	TLRE262A	TLRE262A(MN)	630	644	Transparent	*1	50	200	ø3-2			
	47.6	120	TLRE62T	—	630	644	Transparent	*3	50	200	ø3-2			
120°	15.3	45	TLRE60T	—	630	644	Transparent	*3	50	200	ø3-1			
140°	8.5	25	TLRE260A	—	630	644	Transparent	*1	50	200	ø3-1			
Elliptical 5 X 5.8	30°/50°	272	750	TLSE27C	—	613	623	Red, transparent	*3	50	200	Elliptical-1	Message board	
		153	400	TLRME27C	—	626	636	Red, transparent	*3	50	200	Elliptical-1		
		85	300	TLRE27C	—	630	644	Red, transparent	*3	50	200	Elliptical-1		
	30°/60°	85	350	TLRE248	—	630	644	Red, transparent	*1	50	200	Elliptical-1		

◆: Mount flush with PCB



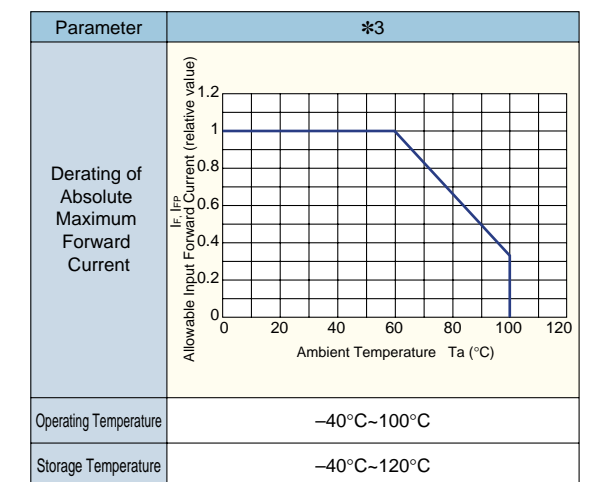
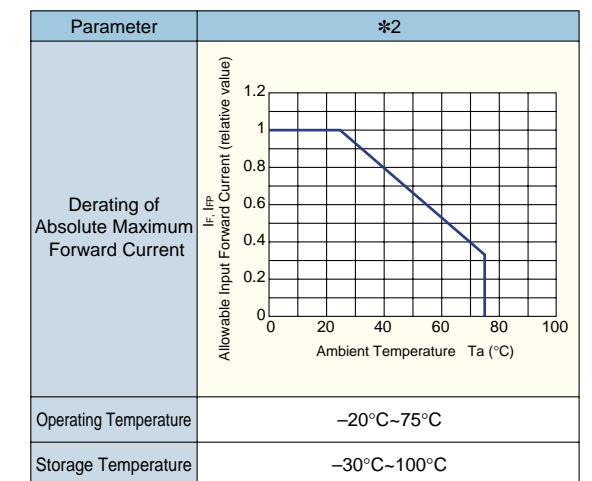
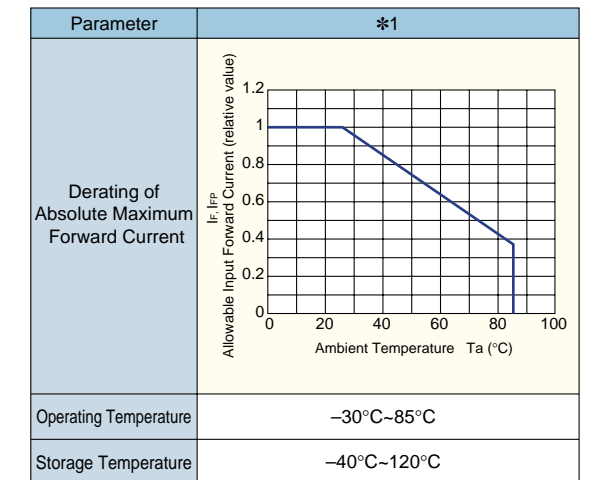
3 Product List for Lead Type

3. High-Brightness Orange LED Lamps

@Ta = 25°C

Series Name	Package Size (mm)	Viewing Angle 2θ1/2	Intensity I _v (mcd) @ I _F = 20 mA		Product Number		Typical Emitting Wavelength		Lens Type	Absolute Maximum Ratings			Package Dimension Number	Typical Applications
			Min	Typ.	Open rank	Rank specified	λ _d (nm)	λ _p (nm)		Guaranteed Temperature	DC Forward Current I _F (mA)	Pulse Forward Current I _{FP} (mA)		
TL*H Series	ø10	4°	8500	33000	TLOH190P	TLOH190P(XY)	605	612	Transparent	*1	50	200	ø10-1	Traffic light
		7°	4760	15000	NEW TLOH20TP	—	605	612	Transparent	*3	50	200	ø5-1	Pilot lamps (narrow range)
	8°	2720	10000	TLOH180P	TLOH180P(VW)	605	612	Transparent	*1	50	200	ø5-1		
	12°	2720	7500	NEW TLOH38TP	—	605	612	Transparent	*3	50	200	ø5-4		
	ø5	20°	1530	5000	NEW TLOH17TP	—	605	612	Transparent	*3	50	200	ø5-2	Message board Backlighting
		22°	850	2800	TLOH157P	TLOH157P(TU)	605	612	Transparent	*1	50	200	ø5-2	
		25°	850	2300	NEW TLOH16TP	—	605	612	Transparent	*3	50	200	ø5-3	
		30°	476	1500	TLOH156P	TLOH156P(ST)	605	612	Transparent	*1	50	200	ø5-3	
		ø3	10°	850	2300	TLOH160	TLOH160(TU)	605	612	Transparent	*1	50	200	ø3-3
	80°		153	450	TLOH262	TLOH262(PQ)	605	612	Transparent	*1	50	200	ø3-2	Backlighting (wide range)
TL*E Series	ø5	7°	4760	10000	TLOE20TP	—	605	612	Transparent	*3	50	200	ø5-1	Pilot lamps (narrow range)
		8°	1530	7000	TLOE180AP	TLOE180AP(UV)	605	612	Transparent	*1	50	200	ø5-1	
		20°	1530	4500	TLOE17TP	—	605	612	Transparent	*3	50	200	ø5-2	Message board Backlighting
		22°	476	2800	TLOE157AP	TLOE157AP(ST)	605	612	Transparent	*1	50	200	ø5-2	
			850	2000	TLOE16TP	—	605	612	Transparent	*3	50	200	ø5-3	
		30°	476	1600	TLOE16CP	—	605	612	Orange, transparent	*3	50	200	ø5-3	
			272	1000	TLOE156AP	TLOE156AP(RS)	605	612	Transparent	*1	50	200	ø5-3	
		75°	272	900	TLOE266	TLOE266(RS)	605	612	Orange, transparent	*1	50	200	ø5-8	
			153	350	TLOE25TP	—	605	612	Transparent	*3	50	200	ø5-6	Backlighting (wide range)
		90°	47.6	260	TLOE263AP	TLOE263AP(PQ)	605	612	Transparent	*1	50	200	ø5-6	
	130°	27.2	65	TLOE11TP	—	605	612	Transparent	*3	50	200	ø5-7		
	150°	15.3	50	TLOE261AP	TLOE261AP(LM)	605	612	Transparent	*1	50	200	ø5-7		
	ø3	10°	476	1500	TLOE160A	TLOE160A(ST)	605	612	Transparent	*1	50	200	ø3-3	Pilot lamps
		16°	1530	4500	TLOE50T	—	605	612	Transparent	*3	50	200	ø3-3	
		45°	272	1000	TLOE53T	—	605	612	Transparent	*3	50	200	ø3-4	Backlighting (wide range)
		80°	153	350	TLOE62T	—	605	612	Transparent	*3	50	200	ø3-2	
		80°	85	300	TLOE262A	TLOE262A(PQ)	605	612	Transparent	*1	50	200	ø3-2	
Elliptical 5 X 5.8		120°	27.2	100	TLOE60T	—	605	612	Transparent	*3	50	200	ø3-1	
		140°	15.3	70	TLOE260A	TLOE260A(LM)	605	612	Transparent	*1	50	200	ø3-1	
	30°/50°	272	800	TLOE27C	—	605	612	Orange, transparent	*3	50	200	Elliptical-1	Message board	
	30°/60°	153	370	TLOE248	—	605	612	Orange, transparent	*1	50	200	Elliptical-1		
TL*U Series	ø5	6°	2720	7000	TLOU180P	TLOU180P(UV)	605	612	Transparent	*1	30	120	ø5-1	Pilot lamps (narrow range)
		20°	476	900	TLOU156P	TLOU156P(RS)	605	612	Transparent	*1	30	120	ø5-3	
			476	800	TLOU172P	—	605	612	Orange, transparent	*1	30	120	ø5-3	
		30°	272	900	TLOU113P	TLOU113P(RS)	605	612	Orange, transparent	*2	30	120	ø5-5	Message board Backlighting
	40°	47.6	250	TLOU114P	TLOU114P(NP)	605	612	Orange, diffusing	*2	30	120	ø5-5		
	ø3	9°	476	2500	TLOU160	—	605	612	Transparent	*1	30	120	ø3-3	Pilot lamps
		35°	85	400	TLOU123	—	605	612	Orange, transparent	*2	30	120	ø3-4	
		40°	47.6	180	TLOU124	—	605	612	Orange, diffusing	*2	30	120	ø3-4	
		60°	47.6	300	TLOU262	TLOU262(PQ)	605	612	Transparent	*1	30	120	ø3-2	Backlighting (wide range)
	47.6		200	TLOU267	—	605	612	Orange, transparent	*1	30	120	ø3-2		
Elliptical 5 X 5.8	30°/45°	85	450	TLOU248	—	605	612	Orange, transparent	*1	30	120	Elliptical-1	Message board	

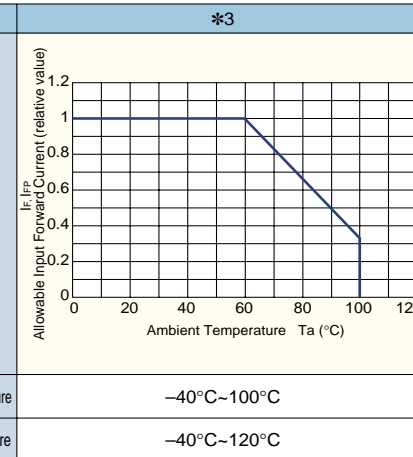
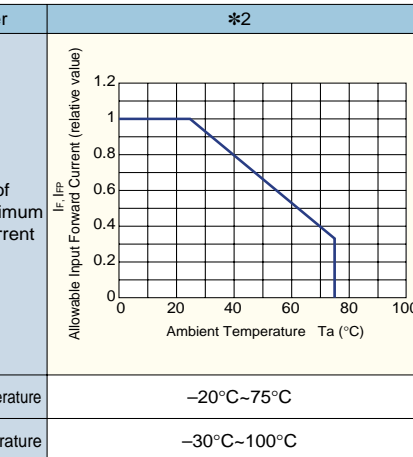
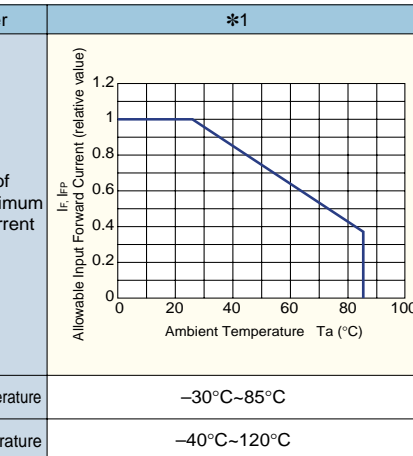
◆: Mount flush with PCB



4. High-Brightness Yellow LED Lamps

@Ta = 25°C

Series Name	Package Size (mm)	Viewing Angle 2 θ 1/2	Intensity I _v (mcd) @ I _F = 20 mA		Product Number		Typical Emitting Wavelength		Lens Type	Absolute Maximum Ratings			Package Dimension Number	Typical Applications	
			Min	Typ.	Open rank	Rank specified	λ_d (nm)	λ_p (nm)		Guaranteed Temperature	DC Forward Current I _F (mA)	Pulse Forward Current I _{FP} (mA)			
TL*H Series	ø10	4°	8500	30000	TLYH190P	TLYH190P(XY)	587	590	Transparent	*1	50	200	ø10-1	Traffic light	
		7°	4760	13000	NEW TLYH20TP	—	587	590	Transparent	*3	50	200	ø5-1	Pilot lamps (narrow range)	
	ø5	8°	2720	8000	TLYH180P	TLYH180P(VW)	587	590	Transparent	*1	50	200	ø5-1		
		12°	2720	7000	NEW TLYH38TP	—	587	590	Transparent	*3	50	200	ø5-4		
		15°	2200	4500	TLYH151P	—	587	590	Transparent	*1	50	200	ø5-4		
		20°	1530	4800	NEW TLYH17TP	—	587	590	Transparent	*3	50	200	ø5-2		
	ø3	22°	850	2500	TLYH157P	TLYH157P(TU)	587	590	Transparent	*1	50	200	ø5-2	Message board Backlighting	
		25°	850	2200	NEW TLYH16TP	—	587	590	Transparent	*3	50	200	ø5-3		
		30°	476	1400	TLYH156P	TLYH156P(RS)	587	590	Transparent	*1	50	200	ø5-3		
	Elliptical 5 X 5.8	60°/30°	10°	850	4300	TLYH160	TLYH160(TU)	587	590	Transparent	*1	50	200	ø3-3	Pilot lamps
			80°	85	280	TLYH262	TLYH262(PQ)	587	590	Transparent	*1	50	200	ø3-2	Backlighting (wide range)
TL*E Series	ø5	5°	2720	8000	NEW TLPYE23TP	—	580	583	Transparent	*3	50	200	ø5-9	Pilot lamps (narrow range)	
		7°	2720	9500	TLYE20TP	—	587	590	Transparent	*3	50	200	ø5-1		
		8°	1530	4700	TLYE180AP	TLYE180AP(UV)	587	590	Transparent	*1	50	200	ø5-1		
		18°	476	2000	NEW TLPYE19TP	—	580	583	Transparent	*3	50	200	ø5-10		
		20°	850	3000	TLYE17TP	—	587	590	Transparent	*3	50	200	ø5-2	Message board Backlighting	
		22°	476	2200	TLYE157AP	TLYE157AP(ST)	587	590	Transparent	*1	50	200	ø5-2		
			476	1500	TLYE16TP	—	587	590	Transparent	*3	50	200	ø5-3		
			476	1200	TLYE16CP	—	587	590	Yellow, transparent	*3	50	200	ø5-3		
		30°	272	750	NEW TLPYE18TP	—	580	583	Transparent	*3	50	200	ø5-12	Backlighting (wide range)	
		272	700	TLYE156AP	TLYE156AP(QR)	587	590	Transparent	*1	50	200	ø5-3			
		75°	85	300	TLYE25TP	—	587	590	Transparent	*3	50	200	ø5-6		
	90°	47.6	170	TLYE263AP	TLYE263AP(NP)	587	590	Transparent	*1	50	200	ø5-6			
	ø3	130°	15.3	45	TLYE11TP	—	587	590	Transparent	*3	50	200	ø5-7	Pilot lamps	
		150°	8.5	27	TLYE261AP	TLYE261AP(JK)	587	590	Transparent	*1	50	200	ø5-7		
		10°	476	2300	TLYE160A	TLYE160A(ST)	587	590	Transparent	*1	50	200	ø3-3	Backlighting (wide range)	
16°			1530	3500	TLYE50T	—	587	590	Transparent	*3	50	200	ø3-3		
850			2500	NEW TLPYE50T	—	580	583	Transparent	*3	50	200	ø3-3			
272			800	TLYE53T	—	587	590	Transparent	*3	50	200	ø3-4			
153			450	NEW TLPYE53T	—	580	583	Transparent	*3	50	200	ø3-4			
80°		85	340	NEW TLYE68TG◆	—	587	590	Transparent	*3	50	200	ø3-5	Backlighting (wide range)		
	85	250	TLYE62T	—	587	590	Transparent	*3	50	200	ø3-2				
85	240	TLYE262A	TLYE262A(NP)	587	590	Transparent	*1	50	200	ø3-2	Message board				
47.6	150	NEW TLPYE62T	—	580	583	Transparent	*3	50	200	ø3-2					
120°	27.2	85	TLYE60T	—	587	590	Transparent	*3	50	200	ø3-1	Pilot lamps (narrow range)			
140°	15.3	40	TLYE260A	TLYE260A(KL)	587	590	Transparent	*1	50	200	ø3-1				
TL*U Series	ø5	30°/50°	272	650	TLYE27C	—	587	590	Yellow, transparent	*3	50	200	Elliptical-1	Message board	
			6°	850	4300	TLYU180P	TLYU180P(TU)	587	590	Transparent	*1	30	120		ø5-1
			153	500	TLYU156P	TLYU156P(QR)	587	590	Transparent	*1	30	120	ø5-3		
			153	400	TLYU172P	—	587	590	Yellow, transparent	*1	30	120	ø5-3		
	ø3	30°	153	500	TLYU113P	—	587	590	Yellow, transparent	*2	30	120	ø5-5	Pilot lamps (narrow range)	
		40°	47.6	130	TLYU114P	TLYU114P(MN)	587	590	Yellow, diffusing	*2	30	120	ø5-5		
		35°	85	220	TLYU123	TLYU123(NP)	587	590	Yellow, transparent	*2	30	120	ø3-4	Message board Backlighting	
		40°	47.6	110	TLYU124	TLYU124(MN)	587	590	Yellow, diffusing	*2	30	120	ø3-4		
60°	47.6	150	TLYU262	TLYU262(MN)	587	590	Transparent	*1	30	120	ø3-2	Backlighting (wide range)			
	47.6	90	TLYU267	—	587	590	Yellow, transparent	*1	30	120	ø3-2				
	90°	476	1500	TLYU160	TLYU160(ST)	587	590	Transparent	*1	30	120		ø3-3		



◆: Mount flush with PCB

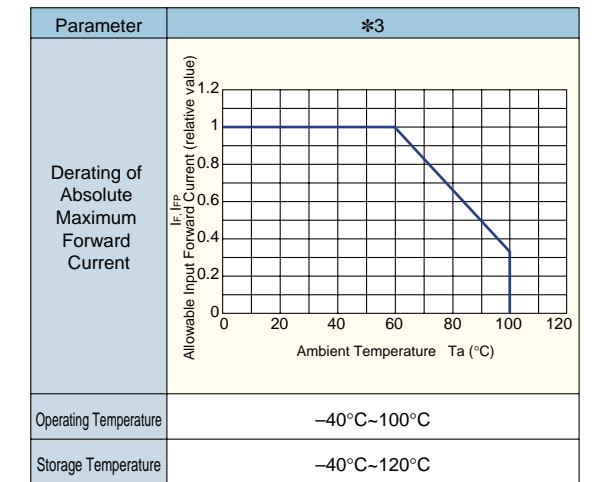
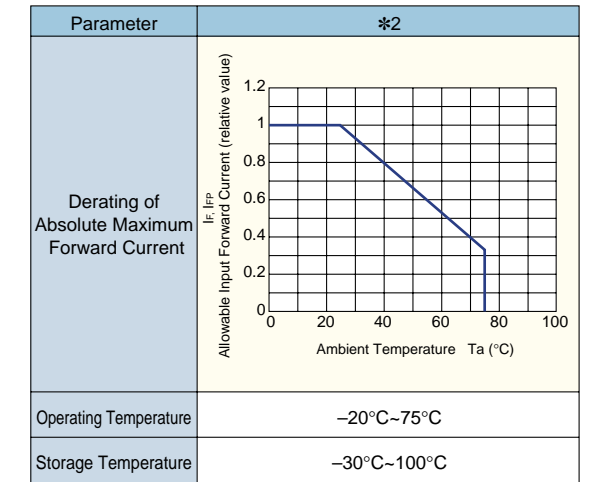
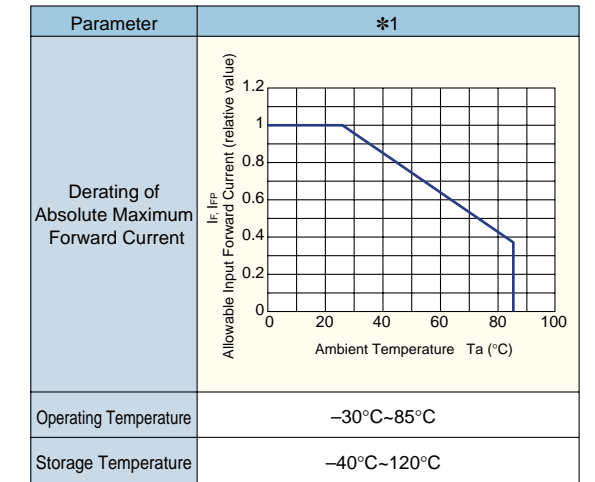
3 Product List for Lead Type

5. High-Brightness Green LED Lamps

@Ta = 25°C

Series Name	Package Size (mm)	Viewing Angle 2θ1/2	Intensity I _v (mcd) @I _F = 20 mA		Product Number		Typical Emitting Wavelength		Lens Type	Absolute Maximum Ratings			Package Dimension Number	Typical Applications
			Min	Typ.	Open rank	Rank specified	λd (nm)	λp (nm)		Guaranteed Temperature	DC Forward Current I _F (mA)	Pulse Forward Current I _{FP} (mA)		
TL*E Series	ø5	5°	2720	7000	TLGE23TP	—	571	574	Transparent	*3	50	200	ø5-9	Pilot lamps (narrow range)
			850	3000	TLPGE23TP	—	558	562	Transparent	*3	50	200	ø5-9	
			1530	5000	NEW TLFGE23TP	—	565	568	Transparent	*3	50	200	ø5-9	
		7°	1530	5000	TLGE183P	—	571	574	Transparent	*1	50	200	ø5-9	
			476	2000	TLPGE183P	TLPGE183P(ST)	558	562	Transparent	*1	50	200	ø5-9	
		18°	476	1300	TLGE19TP	—	571	574	Transparent	*3	50	200	ø5-10	
			272	800	NEW TLFGE19TP	—	565	568	Transparent	*3	50	200	ø5-10	
			153	500	TLPGE19TP	—	558	562	Transparent	*3	50	200	ø5-10	
		20°	476	1700	TLGE159P	TLGE159P(ST)	571	574	Transparent	*1	50	200	ø5-10	
			476	1400	TLGE174P	—	571	574	Green, transparent	*1	50	200	ø5-11	
			153	430	TLPGE159P	—	558	562	Transparent	*1	50	200	ø5-10	
		28°	272	800	TLGE158P	TLGE158P(QR)	571	574	Transparent	*1	50	200	ø5-12	
			85	150	TLPGE158P	—	558	562	Transparent	*1	50	200	ø5-12	
		30°	85	300	NEW TLFGE18TP	—	565	568	Transparent	*3	50	200	ø5-12	
			272	700	TLGE18TP	—	571	574	Transparent	*3	50	200	ø5-12	
			153	500	TLGE18CP	—	571	574	Green, transparent	*3	50	200	ø5-12	
			85	200	TLPGE18TP	—	558	562	Transparent	*3	50	200	ø5-12	
		75°	27.2	90	TLGE25TP	—	571	574	Transparent	*3	50	200	ø5-6	
	130°	8.5	20	TLGE11TP	—	571	574	Transparent	*3	50	200	ø5-7		
		2.72	8	TLPGE11TP	—	558	562	Transparent	*3	50	200	ø5-7		
	ø3	9°	850	2400	TLGE160	TLGE160(TU)	571	574	Transparent	*1	50	200	ø3-3	Pilot lamps
			272	450	TLPGE160	—	558	562	Transparent	*1	50	200	ø3-3	
		16°	476	1500	TLGE50T	—	571	574	Transparent	*3	50	200	ø3-3	
			272	1000	NEW TLFGE50T	—	565	568	Transparent	*3	50	200	ø3-3	
			153	600	TLPGE50T	—	558	562	Transparent	*3	50	200	ø3-3	
		35°	153	500	TLGE125	TLGE125(QR)	571	574	Transparent	*1	50	200	ø3-4	
			153	450	TLGE123	TLGE123(PQ)	571	574	Green, transparent	*1	50	200	ø3-4	
		45°	47.6	150	TLPGE125	—	558	562	Transparent	*1	50	200	ø3-4	
			153	400	TLGE53T	—	571	574	Transparent	*3	50	200	ø3-4	
			85	200	NEW TLFGE53T	—	565	568	Transparent	*3	50	200	ø3-4	
		65°	47.6	130	TLPGE53T	—	558	562	Transparent	*3	50	200	ø3-4	
			47.6	220	TLGE262	TLGE262(NP)	571	574	Transparent	*1	50	200	ø3-2	
	80°	15.3	45	TLPGE262	—	558	562	Transparent	*1	50	200	ø3-2		
		47.6	155	NEW TLGE68TG◆	—	571	574	Transparent	*3	50	200	ø3-5		
		47.6	110	TLGE62T	—	571	574	Transparent	*3	50	200	ø3-2		
		27.2	70	NEW TLFGE62T	—	565	568	Transparent	*3	50	200	ø3-2		
	120°	15.3	45	TLPGE62T	—	558	562	Transparent	*3	50	200	ø3-2		
		15.3	50	TLGE60T	—	571	574	Transparent	*3	50	200	ø3-1		
		8.5	45	TLGE260	TLGE260(KL)	571	574	Transparent	*1	50	200	ø3-1		
	Elliptical 5 X 5.8	30°/50°	85	250	TLGE27C	—	571	574	Green, transparent	*3	50	200	Elliptical-1	Message board
			153	400	TLGE247	TLGE247(PQ)	571	574	Transparent	*1	50	200	Elliptical-1	
		60°/30°	153	360	TLGE248	—	571	574	Green, transparent	*1	50	200	Elliptical-1	
27.2			90	TLPGE247	TLPGE247(LM)	558	562	Transparent	*1	50	200	Elliptical-1		

◆: Mount flush with PCB



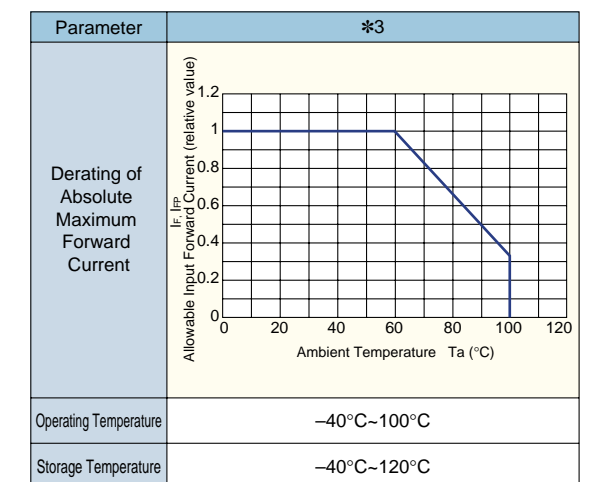
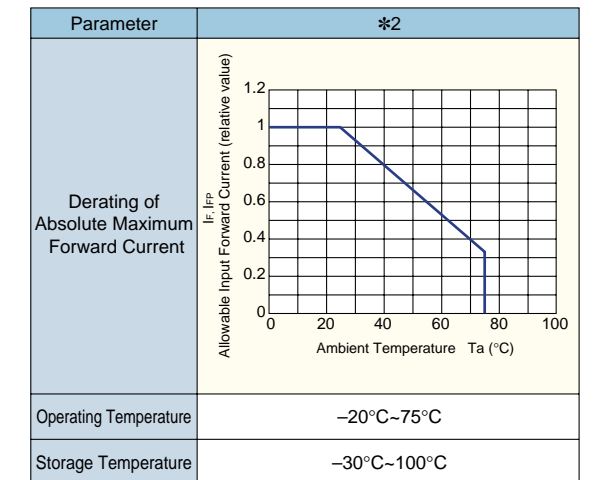
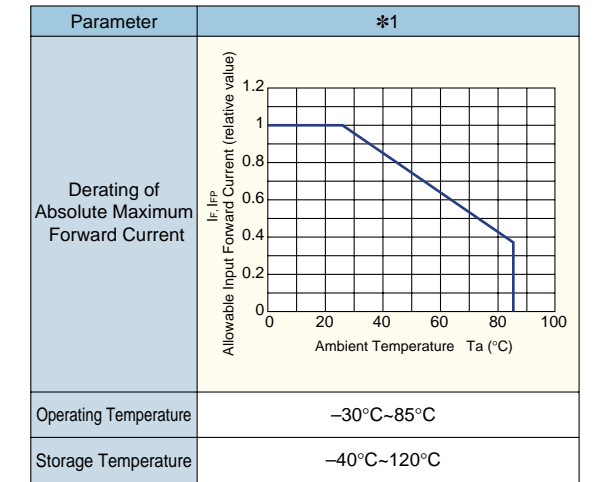
3 Product List for Lead Type

5. High-Brightness Green LED Lamps

@Ta = 25°C

Series Name	Package Size (mm)	Viewing Angle 2θ1/2	Intensity I _v (mcd) @ I _F = 20 mA		Product Number		Typical Emitting Wavelength		Lens Type	Absolute Maximum Ratings			Package Dimension Number	Typical Applications
			Min	Typ.	Open rank	Rank specified	λ _d (nm)	λ _p (nm)		Guaranteed Temperature	DC Forward Current I _F (mA)	Pulse Forward Current I _{FP} (mA)		
TL*U Series	ø5	5°	(1530)	4000	NEW TLGU23TP	—	571	574	Transparent	*3	30	120	ø5-9	Pilot lamps (narrow range)
			(476)	1600	NEW TLPGU23TP	—	558	562	Transparent	*3	30	120	ø5-9	
		30°	(85.0)	200	NEW TLGU18TP	—	571	574	Transparent	*3	30	120	ø5-12	Message board Backlighting
			(27.2)	90	NEW TLPGU18TP	—	558	562	Transparent	*3	30	120	ø5-12	
			(47.6)	180	NEW TLGU18CP	—	571	574	Green, transparent	*3	30	120	ø5-12	
			(27.2)	80	NEW TLPGU13CP	—	558	562	Green, transparent	*3	30	120	ø5-5	
		45°	(47.6)	120	NEW TLGU13CP	—	571	574	Green, transparent	*3	30	120	ø5-5	Message board Backlighting
			(27.2)	80	NEW TLPGU13CP	—	558	562	Green, transparent	*3	30	120	ø5-5	
		55°	(27.2)	70	NEW TLGU13DP	—	571	574	Green, diffusing	*3	30	120	ø5-5	Message board Backlighting
			(15.3)	35	NEW TLPGU13DP	—	558	562	Green, diffusing	*3	30	120	ø5-5	
	ø3	10°	(476)	1200	NEW TLGU50T	—	571	574	Transparent	*3	30	120	ø3-3	Pilot lamps
			(153)	450	NEW TLPGU50T	—	558	562	Transparent	*3	30	120	ø3-3	
		40°	(47.6)	170	NEW TLGU53T	—	571	574	Transparent	*3	30	120	ø3-4	Pilot lamps
			(27.2)	80	NEW TLPGU53T	—	558	562	Transparent	*3	30	120	ø3-4	
			(47.6)	150	NEW TLGU53C	—	571	574	Green, transparent	*3	30	120	ø3-4	
			(27.2)	70	NEW TLPGU53C	—	558	562	Green, transparent	*3	30	120	ø3-4	
		50°	(27.2)	80	NEW TLGU53D	—	571	574	Green, diffusing	*3	30	120	ø3-4	Pilot lamps (narrow range)
			(15.3)	40	NEW TLPGU53D	—	558	562	Green, diffusing	*3	30	120	ø3-4	
		80°	(27.2)	70	NEW TLGU62T	—	571	574	Transparent	*3	30	120	ø3-2	Pilot lamps (narrow range)
			(8.5)	25	NEW TLPGU62T	—	558	562	Transparent	*3	30	120	ø3-2	
Elliptical 5 X 5.8	30°/50°	(47.6)	180	NEW TLGU27C	—	571	574	Green, transparent	*3	30	120	Elliptical-1	Message board	

◆: Mount flush with PCB



3 Product List for Lead Type

6. Package Dimensions

