www.tdled.com

De$cri%tion

The TD101X series combine an AlGaAs infrared emitting diode as the emitter which is optically coupled to a silicon planar phototransistor detector in a plastic LSO ! pac"age# $ ith the robust coplanar double mold structure% TD101X series pro&ide the most stable isolation feature#

Feat&re$

' igh isolation (000) * + S

, T * fle-ibility a&ailable see order information

D , input with transistor output

Operating temperature range . ((/ , to 110 / ,

* o ' S 0 * 1A , ' , ompliance

+ SL class 1

* egulatory Appro&als

2L . 2L1(33

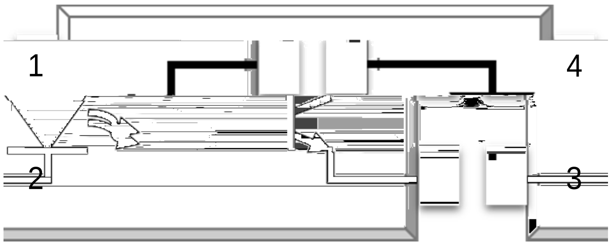
) D1 . 14503 ! 3. (. (6) D1077 ! . (8

, 9 , : G ; ! < ! = # 1 % G ; 77 < 7

A%%lication$

- Switch mode power supplies
- rogrammable controllers
- ' ousehold appliances
- Office e>uipment

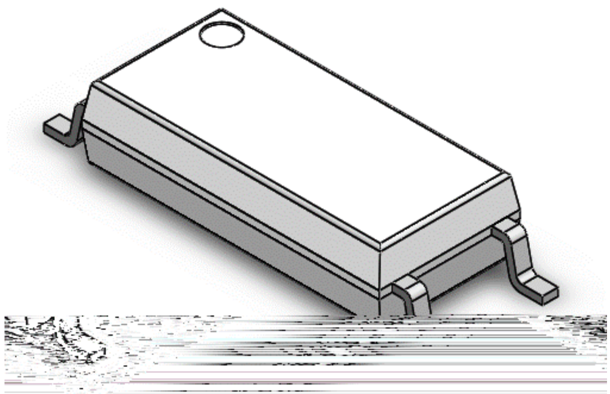
SCHEMATIC



PIN DEFINITION

1. Anode
2. Cathode
3. Emitter
4. Collector

PAC A ! E O " T # INE



A'SO#"TE MA(IM"M)ATIN!S				
A*A+1T1*	S@+;OL	)AL21	24AT	4OT1
A4 2T				
Borward ,urrent	AB	50	mA	
ea" Borward ,urrent	AB	1	A	1
*e&erse)oltage	)*	5	)	
Anput ower Dissipation	A	100	m$	
O2T 2T				
,ollector . 1mitter)oltage	),1O	70	)	
1mitter . ,ollector)oltage	)1,O	3	)	
,ollector ,urrent	A,	(0	mA	
Output ower Dissipation	O	1(0	m$	
,O++O4				
Total ower Dissipation	tot	?(0	m$	
Asolation)oltage	)iso	(000	)rms	?
Operating Temperature	Topr	.((C110	/,	
Storage Temperature	Tstg	.((C1?(	/,	
Soldering Temperature	Tsol	?50	/,	

Note 1. 100μs pulse, 100Hz frequency

Note 2. AC For 1 Minute, R.H. = 40 ~ 60%

E#ECT)ICA# OPTICA# CHA)ACTE)ISTICS at Ta*2+,C								
A*A+1T1*		S@+;OL	+A4#	T@ #	+AX#	24AT	T1ST ,O4DATAO4	4OT1
A4 2T								
Borward)oltage		)B	.	1#!(	1#5	)	ABD(0mA	
*e&erse ,urrent		A*	.	.	10	EA	)*D5)	
Anput ,apacitance		,in	.	=0	?(0	pB	)D0% fD1"'F	
O2T 2T								
,ollector Dar" ,urrent		A,1O	.	.	100	nA	),1D?0)% ABD0	
,ollector.1mitter ;rea"down)oltage		;),1O	70	.	.	)	A,D0#1mA% ABD0	
1mitter.,ollector ;rea"down)oltage		;)1,O	3	.	.	)	A1D0#1mA% ABD0	
T*A4SB1* ,'A*A,T1*ASTA,S								
,urrent Transfer *atio	TD1010	,T*	=00	.	500	G	ABD(mA%),1D()	
	TD101(		(0	.	1(0			
	TD1015		100	.	=00			
	TD1013		70	.	150			
	TD1017		1=0	.	?50			
	TD101<		?00	.	!00			
	TD1011		50	.	=00		ABD10mA%),1D()	
	TD101?		5=	.	1?(			
	TD101=		100	.	?00			
	TD101!		150	.	=?0			
	TD101?		??	.	.		ABD1mA%),1D()	
	TD101=		=!	.	.			
	TD101!		(5	.	.			
,ollector.1mitter Saturation)oltage		),16sat8	.	0#1	0#=	)	ABD10mA% A,D1mA	
Asolation *esistance		*ASO	10H1?	10H1!	.	I	D,(00)% !0 C 50G *#'#	
Bloating ,apacitance		,AO	.	0#!	1	pB	)D0% fD1+'F	
,ut.off Bre>uency		Bc	.	70	.	"'F	),1D?)% A,D?mA *LD100 I%.=d;	=
*esponse Time 6*ise8		Tr	.	(	17	Es	),1D?)% A,D?mA *LD100 I	!
*esponse Time 6Ball8		Tf	.	5	17	Es		!

Note 3. Fig.12&13

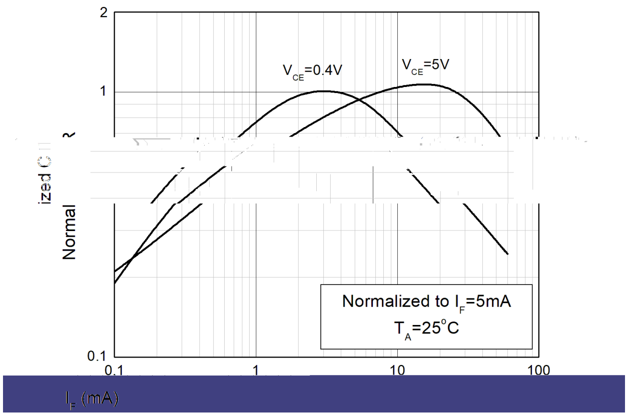
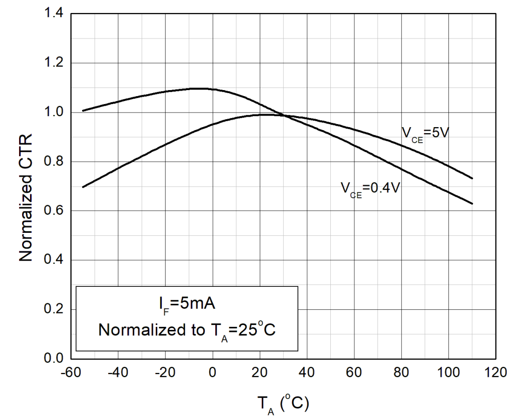
Note 4. Fig.14

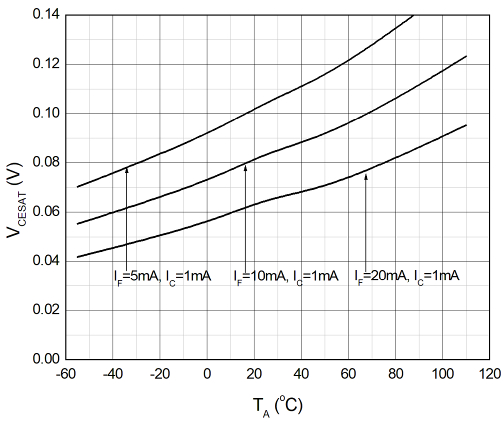
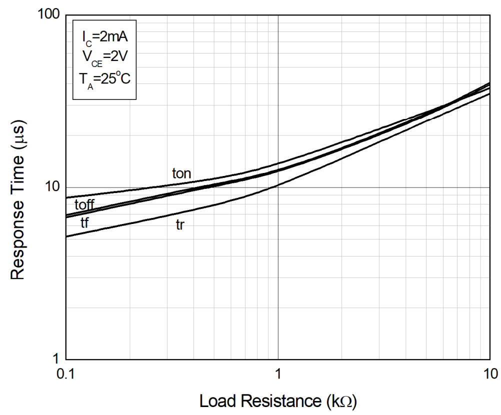
CHA) ACTE) ISTIC C ") - ES	
Fi . .1 For / ard C&rrent 0$. Am1ient Tem%erat&re	Fi . .2 Collector Po / er Di$$i%ation 0$. Am1ient Tem%erat&re
Fi . .3 For / ard C&rrent 0$. For / ard -olta . e	Fi . .4 Collector Dar2 C&rrent 0$. Am1ient Tem%erat&re

Fi . .+ Collector C&rrent
0$. Collector3emitter -olta . e

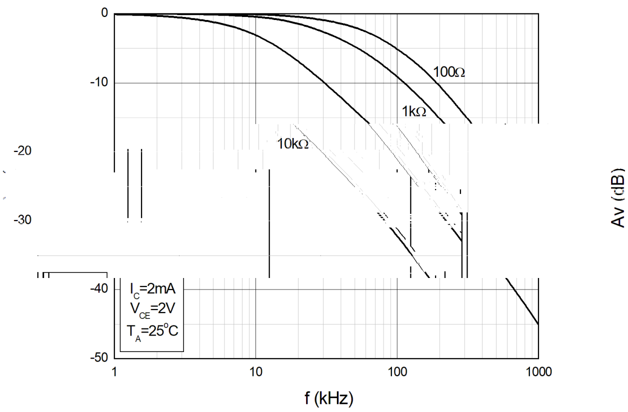
Fi . .4 Collector C&rrent

CHA)ACTE)ISTIC C")-ES

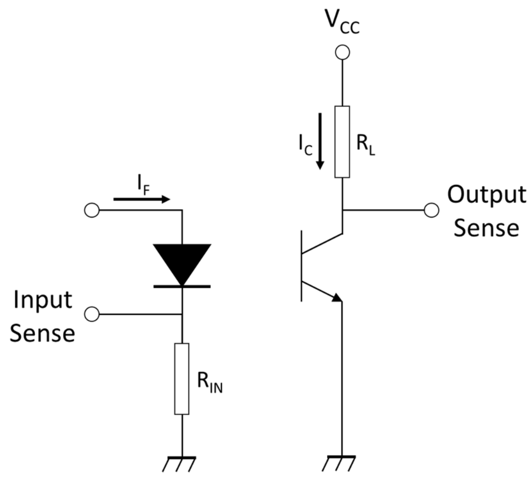
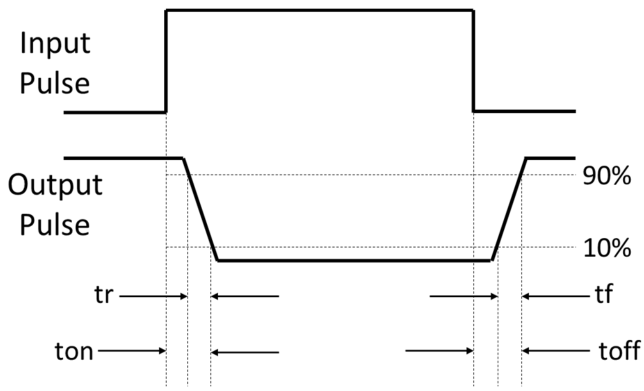
Fi..5 Normali6ed C&rrent Tran$7er)atio 0$. For/ard C&rrent	Fi..8 Normali6ed C&rrent Tran$7er)atio 0$. Am1ient Tem%erat&re
	

Fi..9 Collector3emitter Sat&ration -olta.e 0$. Am1ient Tem%erat&re	Fi..1: S/itchin. Time 0$. #oad)e$i$tance
	

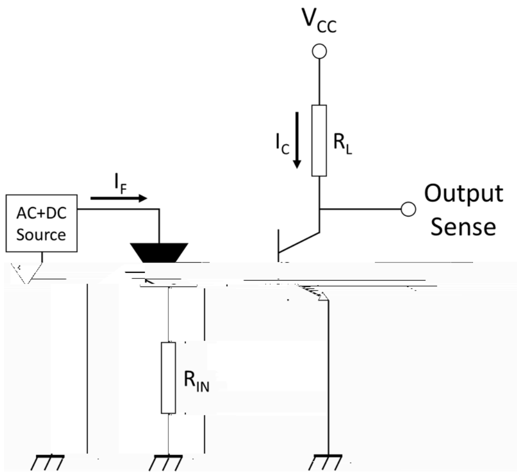
Fi..11 Fre;&enc<)e$%on$e



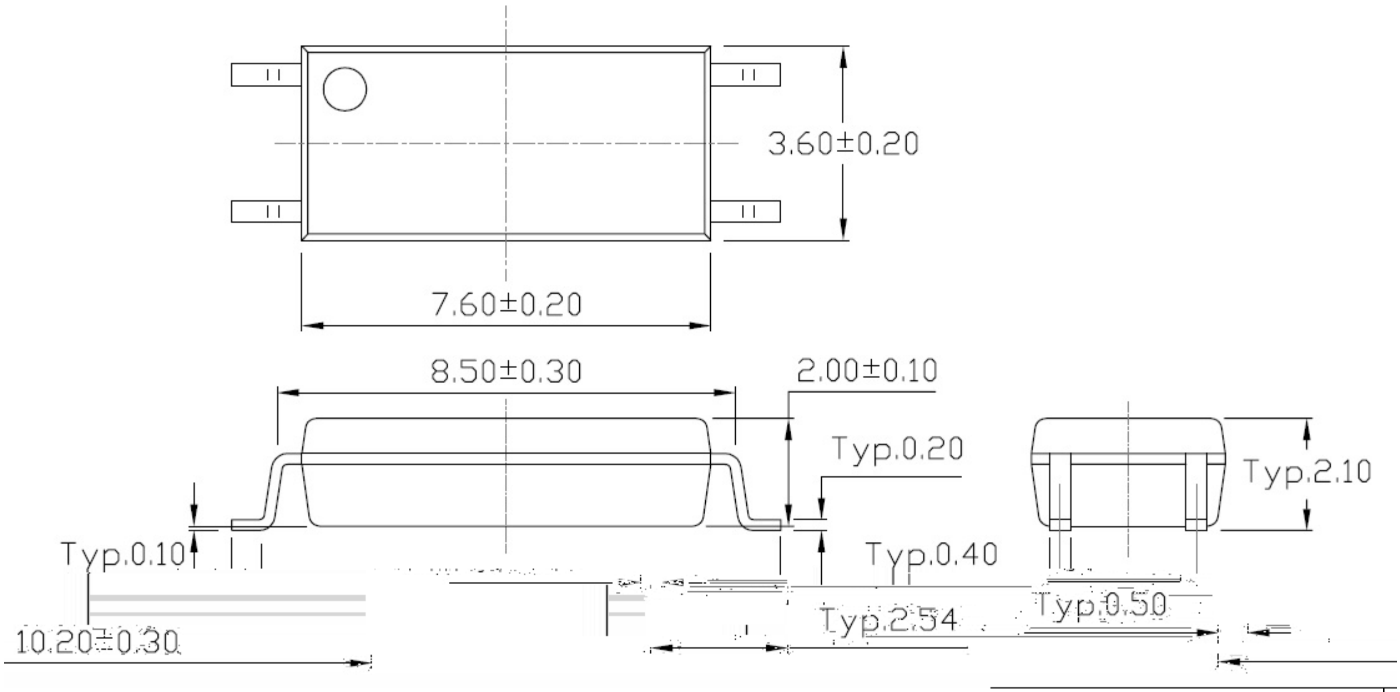
TEST CI)C"ITS

Fi..12 Te$t Circ&it$ o7)e$%on$e Time	Fi..13 C&r0e$ o7)e$%on$e Time
	

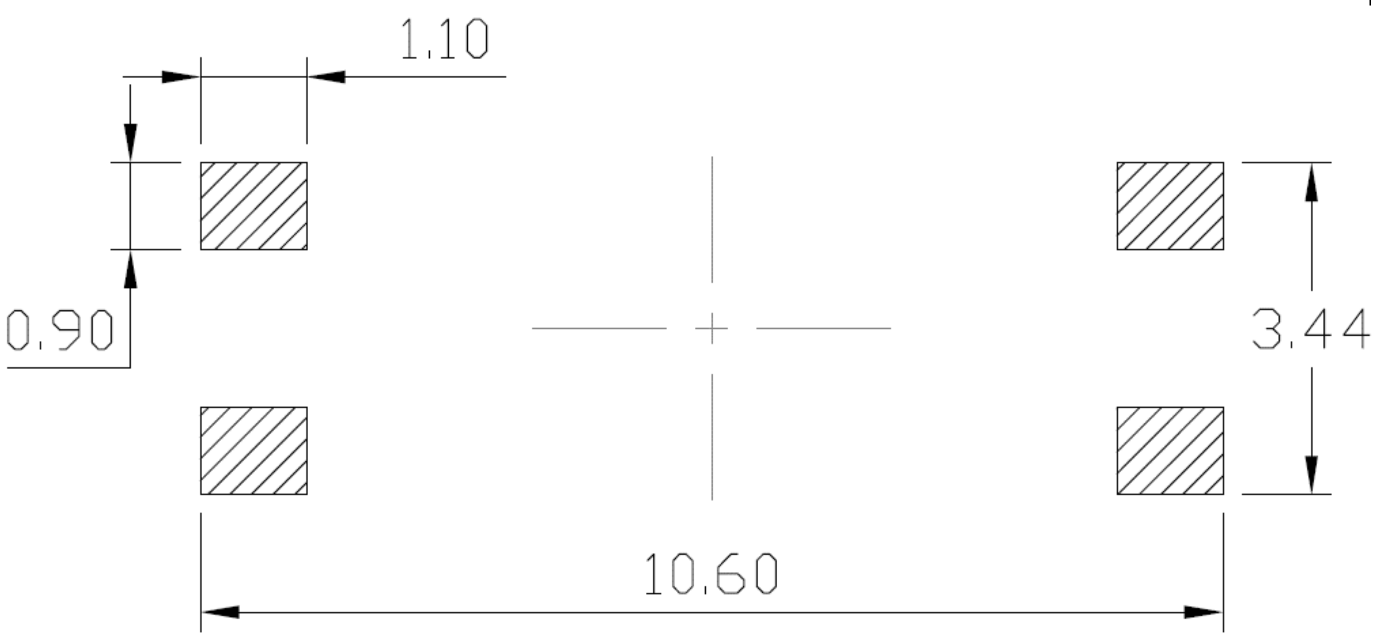
Fi..14 Te$t Circ&it$ o7 Fre;&enc<)e$%on$e



PAC A ! E DIMENSIONS (Dimenion in mm &nle$$ other / i$e $tated=

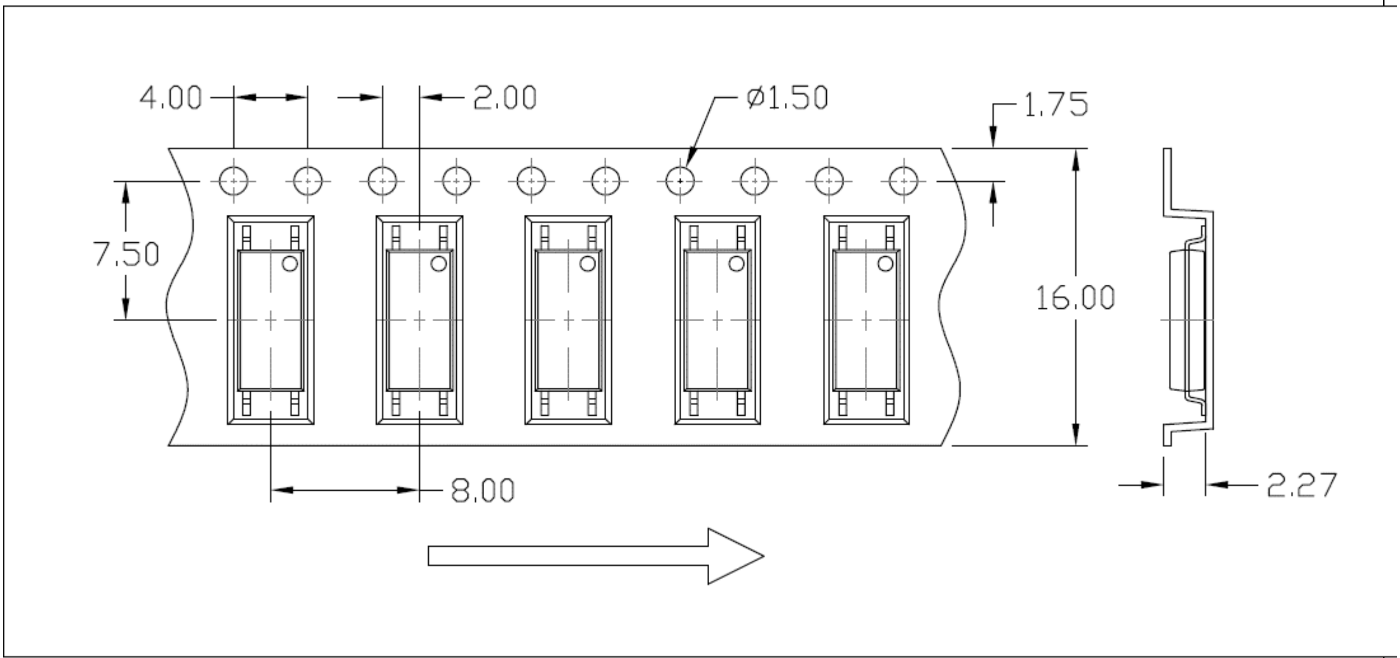


) ECOMMENDED SO#DE) MAS (Dimenion in mm &nle$$ other / i$e $tated=

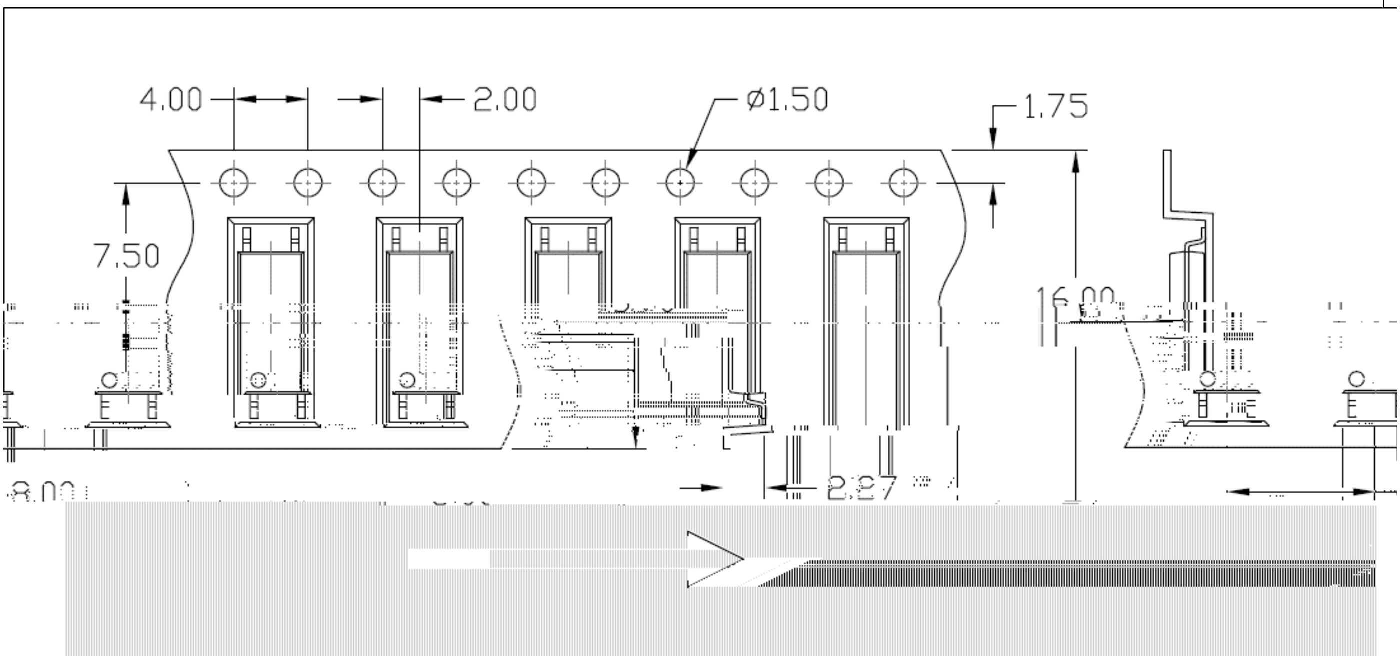


CA))IE) TAPE SPECIFICATIONS (Dimenion in mm &nle$$ other / i$e $tated=

O%tion T1

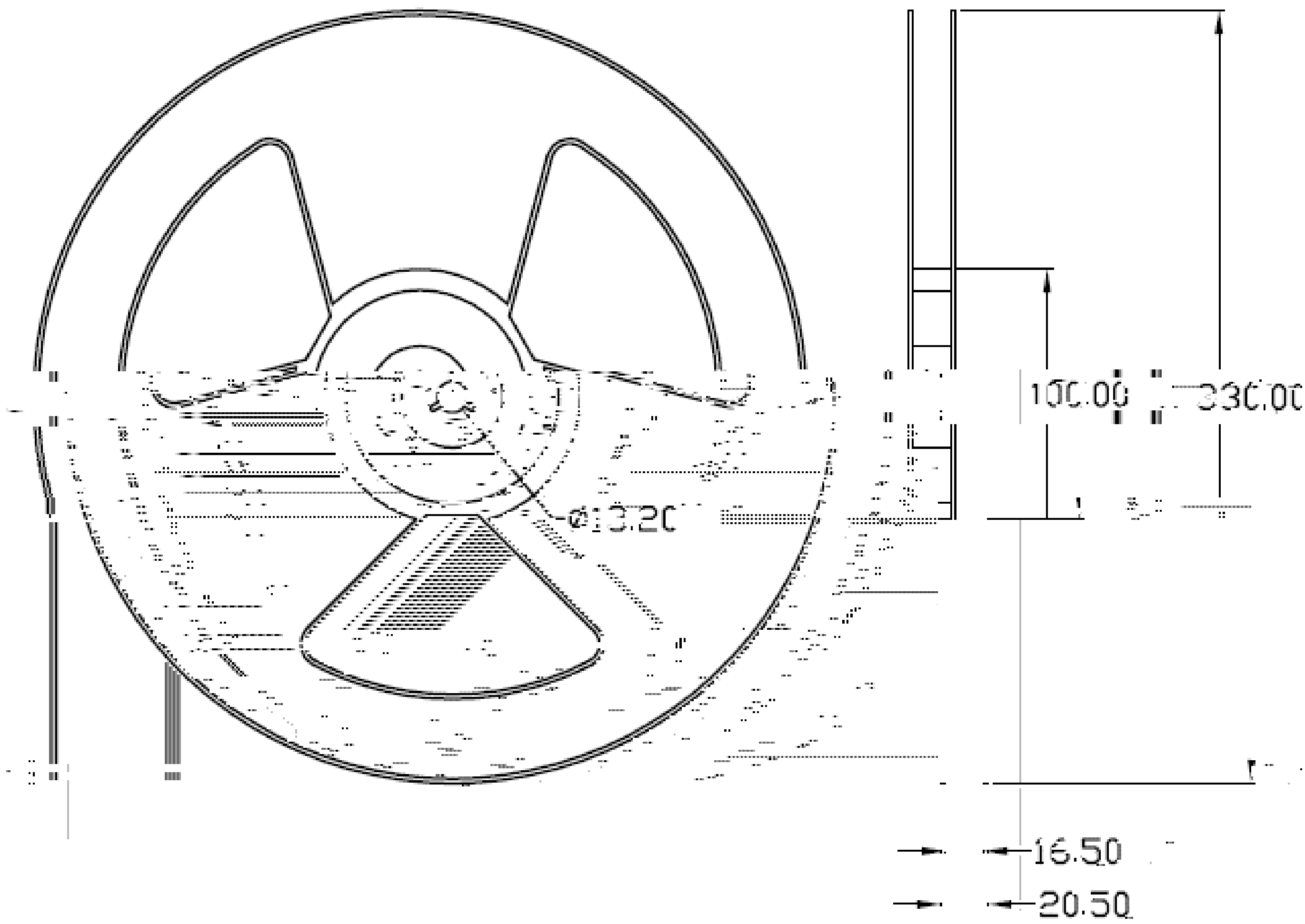


O%tion T2



) EE# SPECIFICATIONS (Dimenion in mm &nle$$ other / i$e $tated=

O%tion T1 > T2



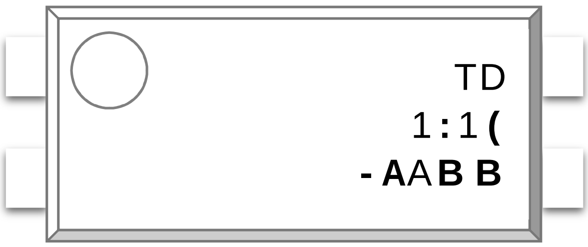
' O (SPECIFICATIONS ( ) eel T<%e=

Inner ' o?

L x W x H = 36cm x 36cm x 6.9cm

O) DE) IN ! AND MA) IN ! INFO) MATION

MA) IN ! INFO) MATION

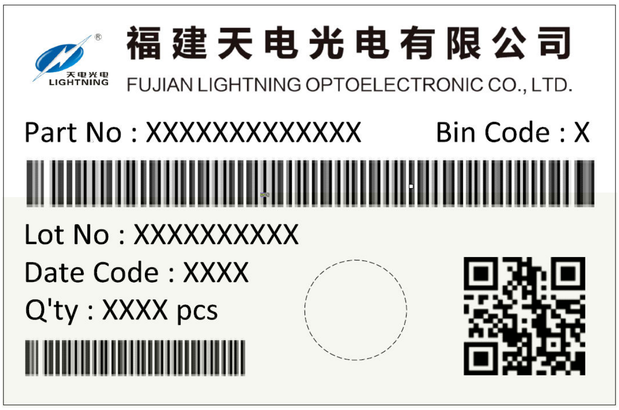


TD	@ Com%an< A11r.
1:1(	@ Part N&m1er >) an2
-	@ - DE O%tion
A	@ Fi$cal Aear
A	@ Man&7act&rin . Code
B B	@ B or2 Bee2

O) DE) IN ! INFO) MATION	#A ' E# INFO) MATION

TD1 : 1 (CD=3 ! -

TD : , ompany Abbr#
101X : * an" 6OJ1J?J=J ! J (J5J3J7J<8
K : Tape and * eel Option 6T1JT?8
G : Green
) :) D1 Option 6) or 4one8

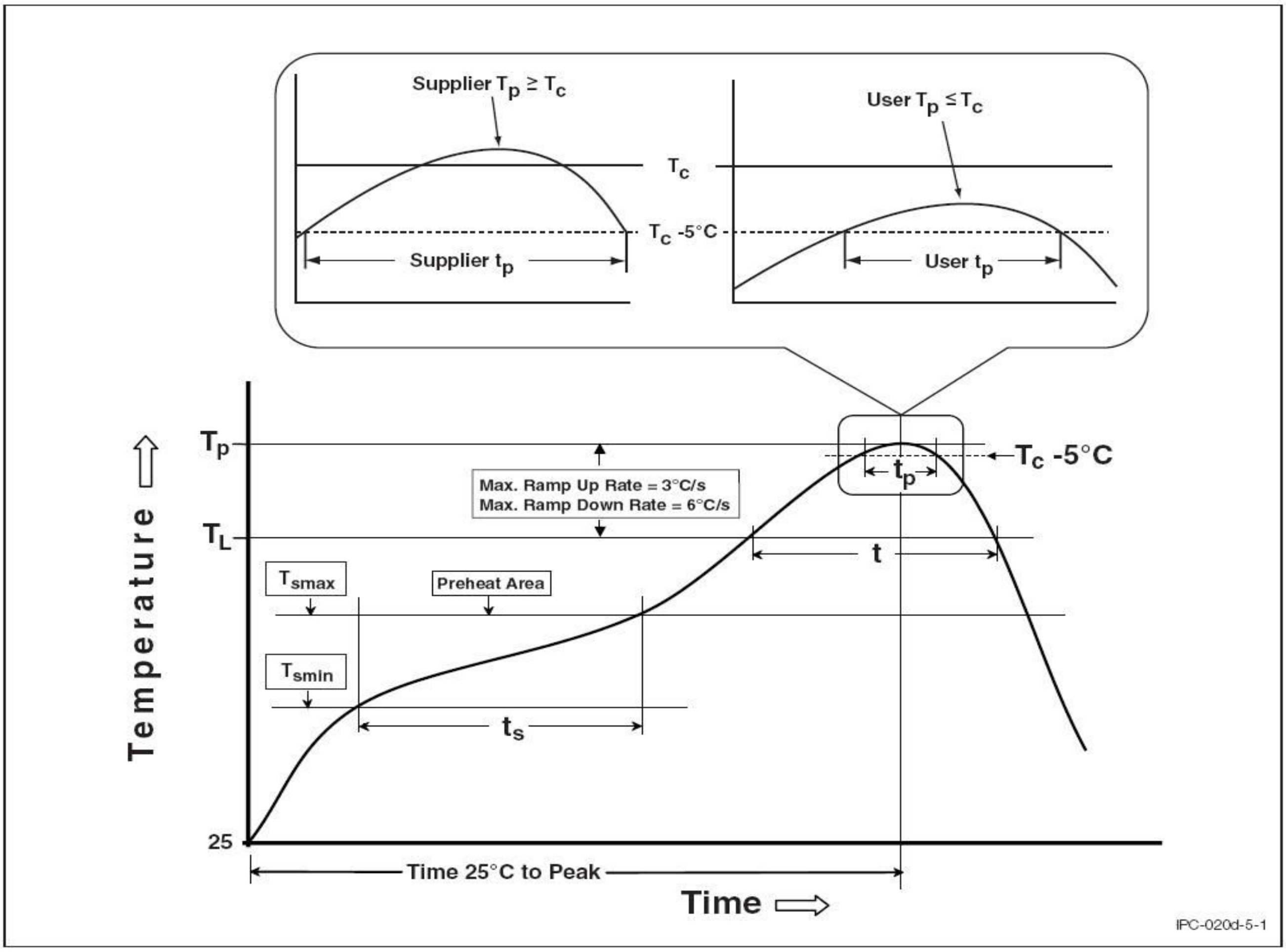


PAC IN ! E " ANTITA

O%tion	E&antit<	E&antit< F Inner 1o?	E&antit< F O&ter 1o?
T1	=000 2nitsJ * eel	= * eelsJAnner bo-	(Anner bo-JOuter bo- D ! (" 2nits
T?	=000 2nitsJ * eel	= * eelsJAnner bo-	(Anner bo-JOuter bo- D ! (" 2nits

)EF#OB INFO)MATION

)EF#OB P)OFI#E



Pro7ile Feat&re	Sn3P1 A$$em1l< Pro7ile	P13Free A$$em1l< Pro7ile
Temperature +in# 6Tsmin8	100	1(0/ ,
Temperature +a-# 6Tsma-8	1(0	?00/ ,
Time 6ts8 from 6Tsmin to Tsma-8	50.1?0 seconds	50.1?0 seconds
*amp.up *ate 6tL to t 8	=/ , Jsecond ma-#	=/ , Jsecond ma-#
Li>uidous Temperature 6TL8	17=/ ,	?13/ ,
Time 6tL8 +aintained Abo&e 6TL8	50 : 1(0 seconds	50 : 1(0 seconds
ea" ;ody ac"age Temperature	?=(/ , L0/ , J.(/ ,	?50/ , L0/ , J.(/ ,
Time 6t 8 within (/ , of ?50/ ,	?0 seconds	=0 seconds
*amp.down *ate 6T to TL8	5/ , Jsecond ma-	5/ , Jsecond ma-
Time ?(/ , to ea" Temperature	5 minutes ma-#	7 minutes ma-#

DISC#AIME)

LAG ' T4A4G is continually impro&ing the >uality% reliability% function and design# LAG ' T4A4G reser&es the right to ma"e changes without further notices#

The characteristic cur&es shown in this datasheet are representing typical performance which are not guaranteed#

LAG ' T4A4G ma"es no warranty% representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product# To the ma-imum e-tent permitted by applicable law% LAG ' T4A4G disclaims 6a8 any and all liability arising out of the application or use of any product% 6b8 any and all liability% including without limitation special% conse>uential or incidental damages% and 6c8 any and all implied warranties% including warranties of fitness for particular

The products shown in this publication are designed for the general use in electronic applications such as office automation% e>uipment% communications de&ices% audioJ&isual e>uipment% electrical application and instrumentation purpose% non.infringement and merchantability#

This product is not intended to be used for military% aircraft% automoti&e% medical% life sustaining or lifesa&ing applications or any other application which can result in human in|ury or death#

lease contact LAG ' T4A4G sales agent for special application re>uest#

Ammerge unit|s body in solder paste is not recommended#

arameters pro&ided in datasheets may &ary in different applications and performance may &ary o&er time# All operating parameters% including typical parameters% must be &alidated in each customer application by the customer|s technical e-perts# roduct specifications do not e-pand or otherwise modify LAG ' T4A4G|s terms and conditions of purchase% including but not limited to the warranty e-pressed therein#

Discoloration might be occurred on the pac"age surface after soldering% reflow or long.time use# At neither impacts the performance nor reliability#