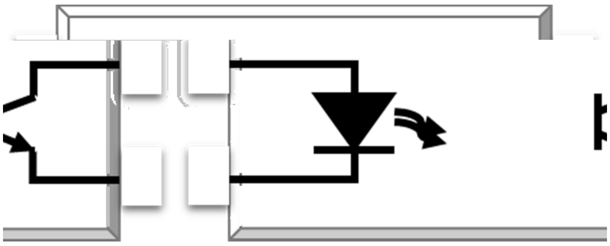
De$cri%tion

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#

SCHEMATIC



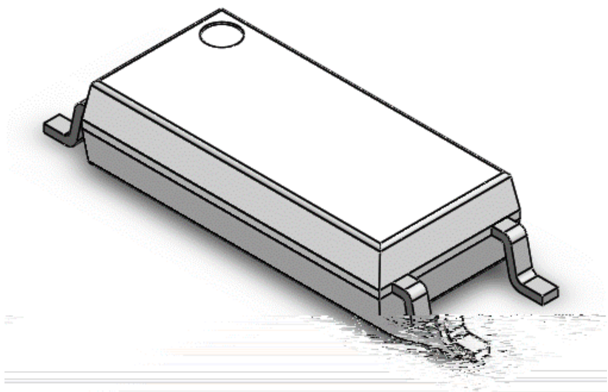
PIN DEFINITION

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

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

PAC A ! E O " T#INE



A%%lication$

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

A ' SO# " TE MA (IM " M) ATIN ! S				
A * A + 1T1 *	S@ + ; OL	) AL2 1	2 4AT	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, 100 ! "#e$uenc%

Note 2. A& 'o# 1 ( )nute, R. . * +0 , -0 .

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 /. ')0.1211/

Note +. ')0.1+

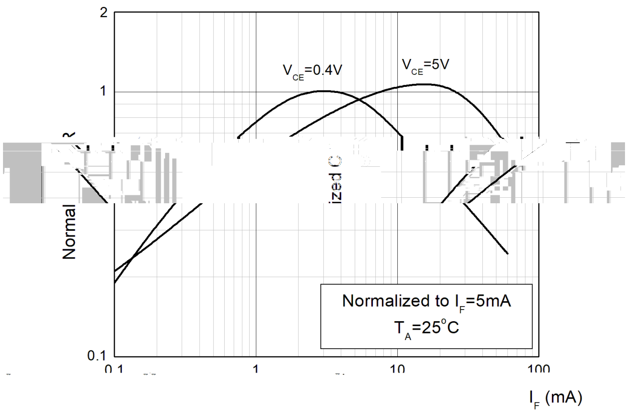
CHA)ACTE)ISTIC C")-ES	
Fi..1 For/ard C&rrent 0$. Am1ient Tem%erat&re	Fi..2 Collector Po/er Di$$i%ation 0$. Am1ient Tem%erat&re
Fi..3 For/ard C&rrent 0$. For/ard -olta.e	Fi..4 Collector Dar2 C&rrent 0$. Am1ient Tem%erat&re

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

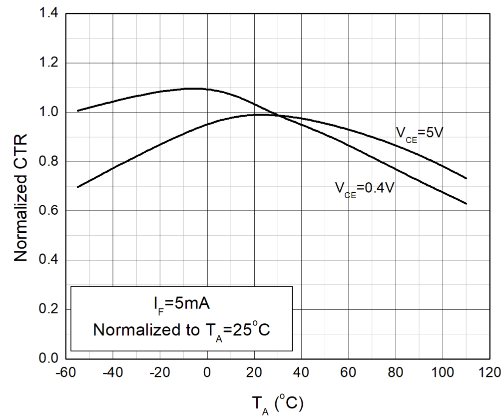
Fi..4 Collector C&rrent
0$. Collector3emitt2.81416(t2.81416(t2.1

CHA)ACTE)ISTIC C")-ES

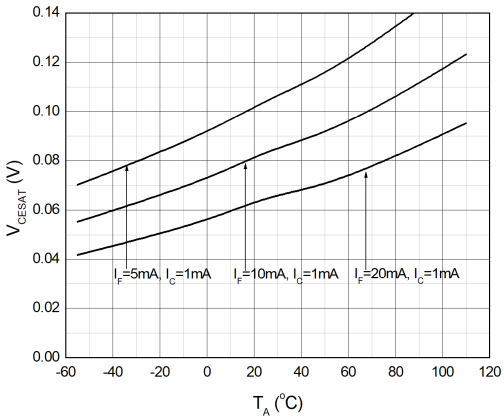
Fi..5 Normali6ed C&rrent Tran$7er)atio 0$. For / ard C&rrent



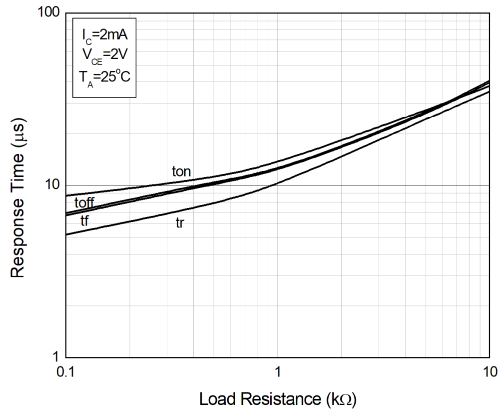
Fi..8 Normali6ed C&rrent Tran$7er)atio 0$. Am1ient Tem%erat&re



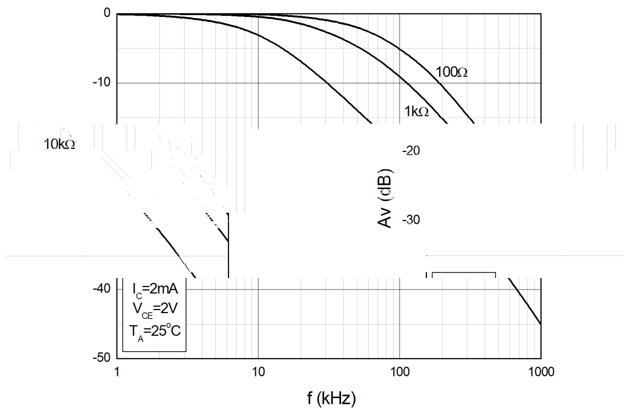
Fi..9 Collector3emitter Sat&ration -olta.e 0$. Am1ient Tem%erat&re



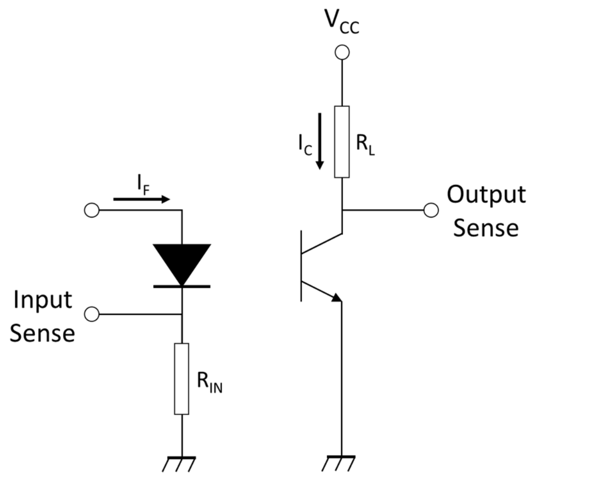
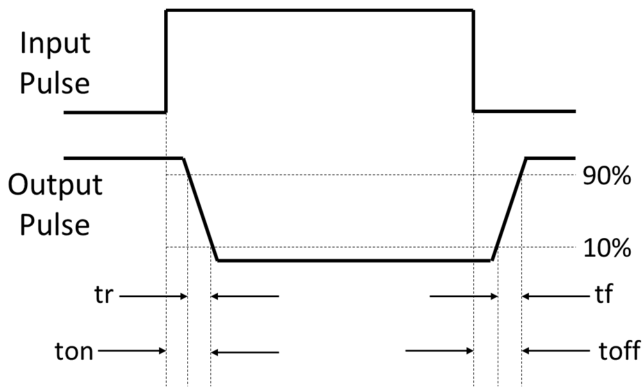
Fi..1: S/itchin. Time 0$. #oad)e$i$tance



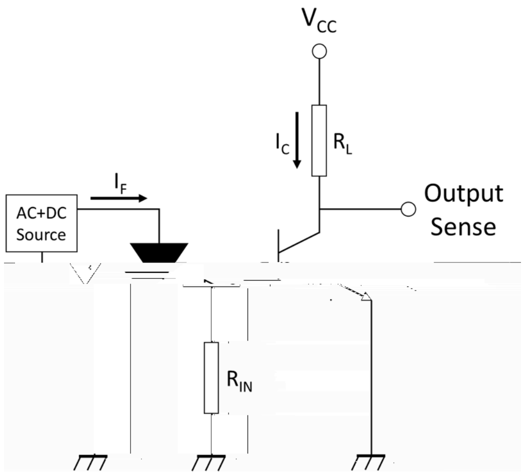
Fi..11 Fre;&enc<)e$%on$e



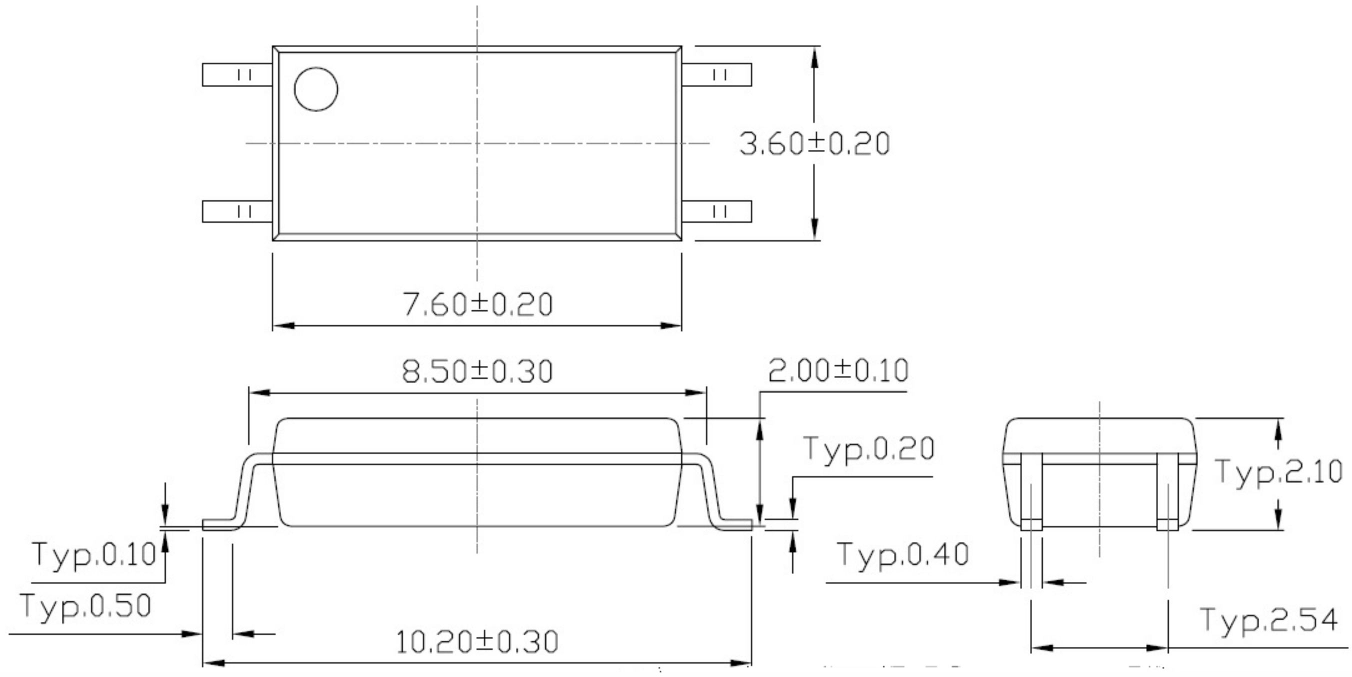
TEST CI)C"ITS

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

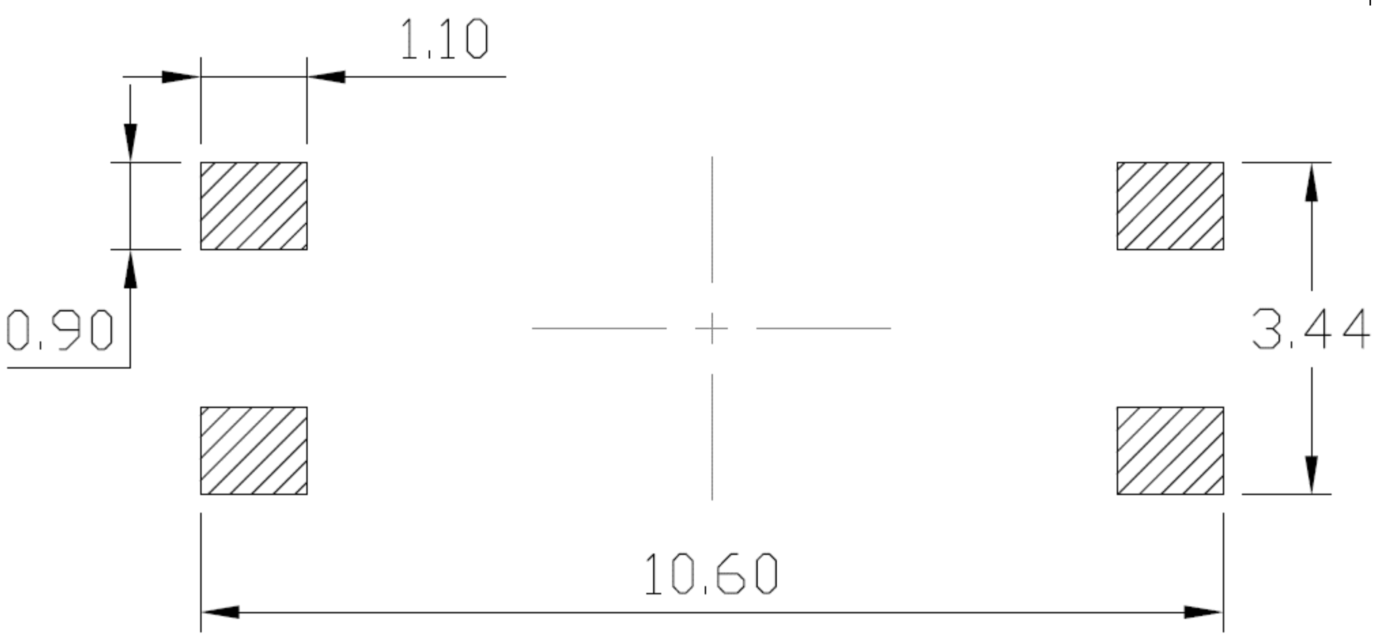
Fi..14 Te$t Circ&it$ o7 Fre;&enc<)e$%on$e



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

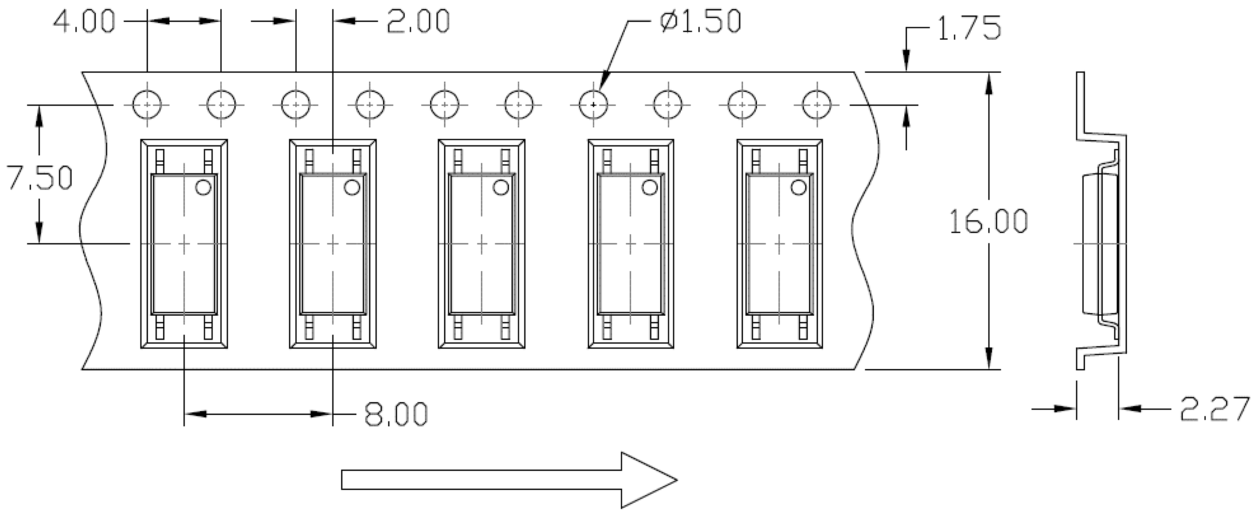


) ECOMMENDED SO#DE) MAS Dimenion in mm &nle$$ other / i$e $tated=

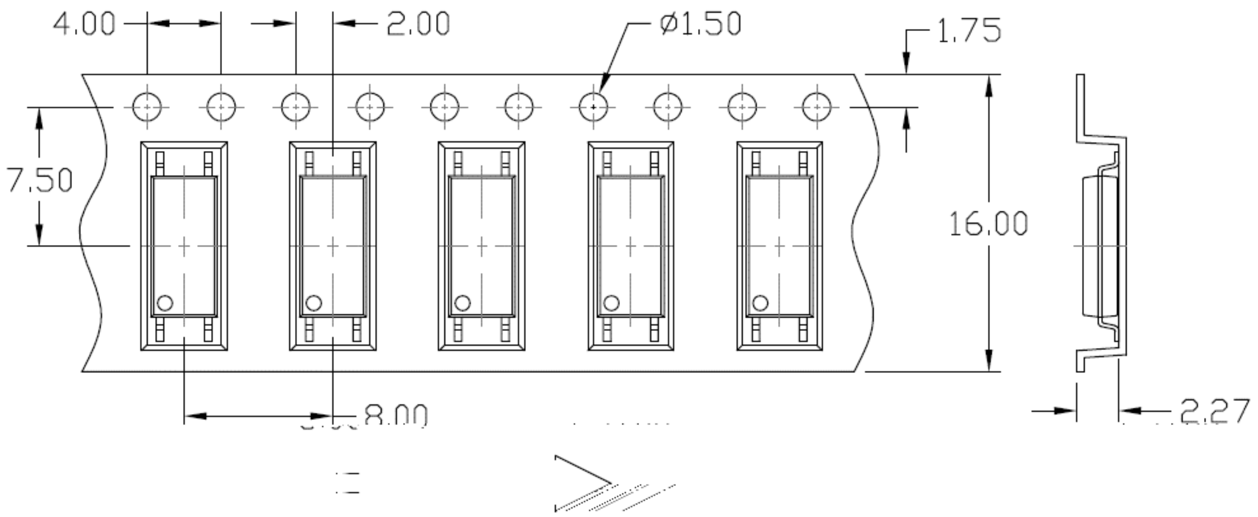


CA))IE) TAPE SPECIFICATIONS Dimenion in mm &nle$$ other/i$e $tated=

O%tion T1

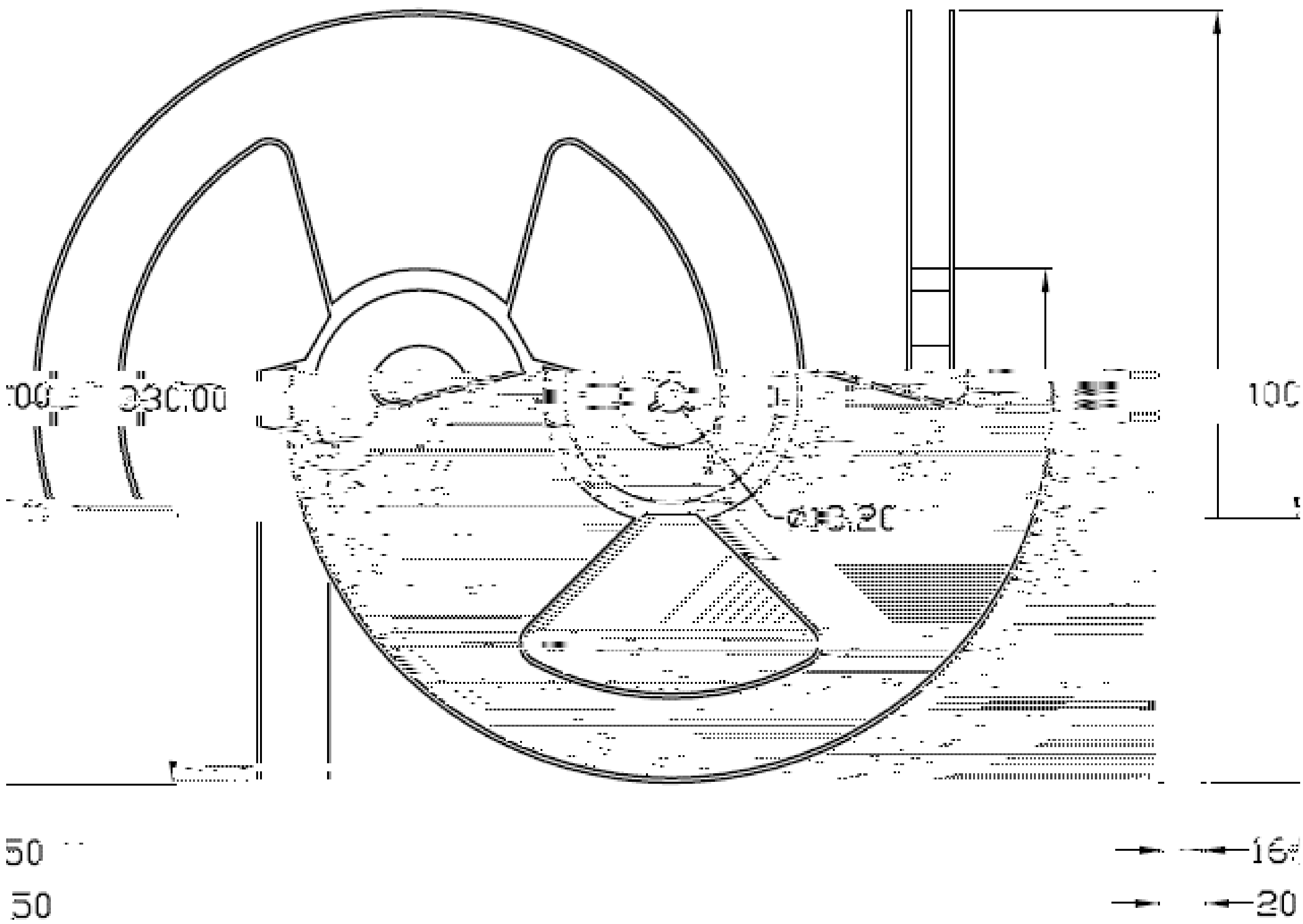


O%tion T2



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

O%tion T1 > T2



'O(SPECIFICATIONS)eel T<%e=

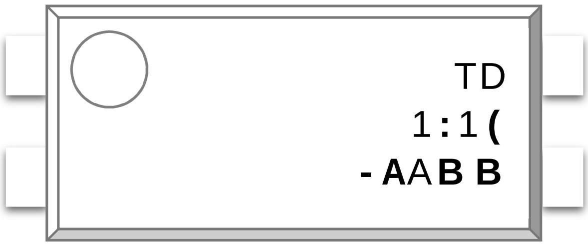
Inner 'o?

2 3 W 3 * / -cm 3 / -cm 3 -.9cm

O&ter 'o?

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	@Bor2 Bee2

O)DE)IN! INFO)MATION

TD1:1(CD=3! -

TD : ,ompany Abbr#

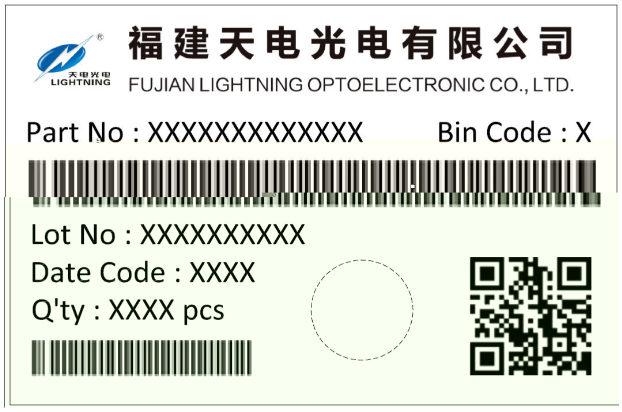
101X : *an" 60J1J?J=J!J(J5J3J7J<8

K : Tape and *eel Option 6T1JT?8

G : Green

) :)D1 Option 6) or 4one8

#A'E# INFO)MATION

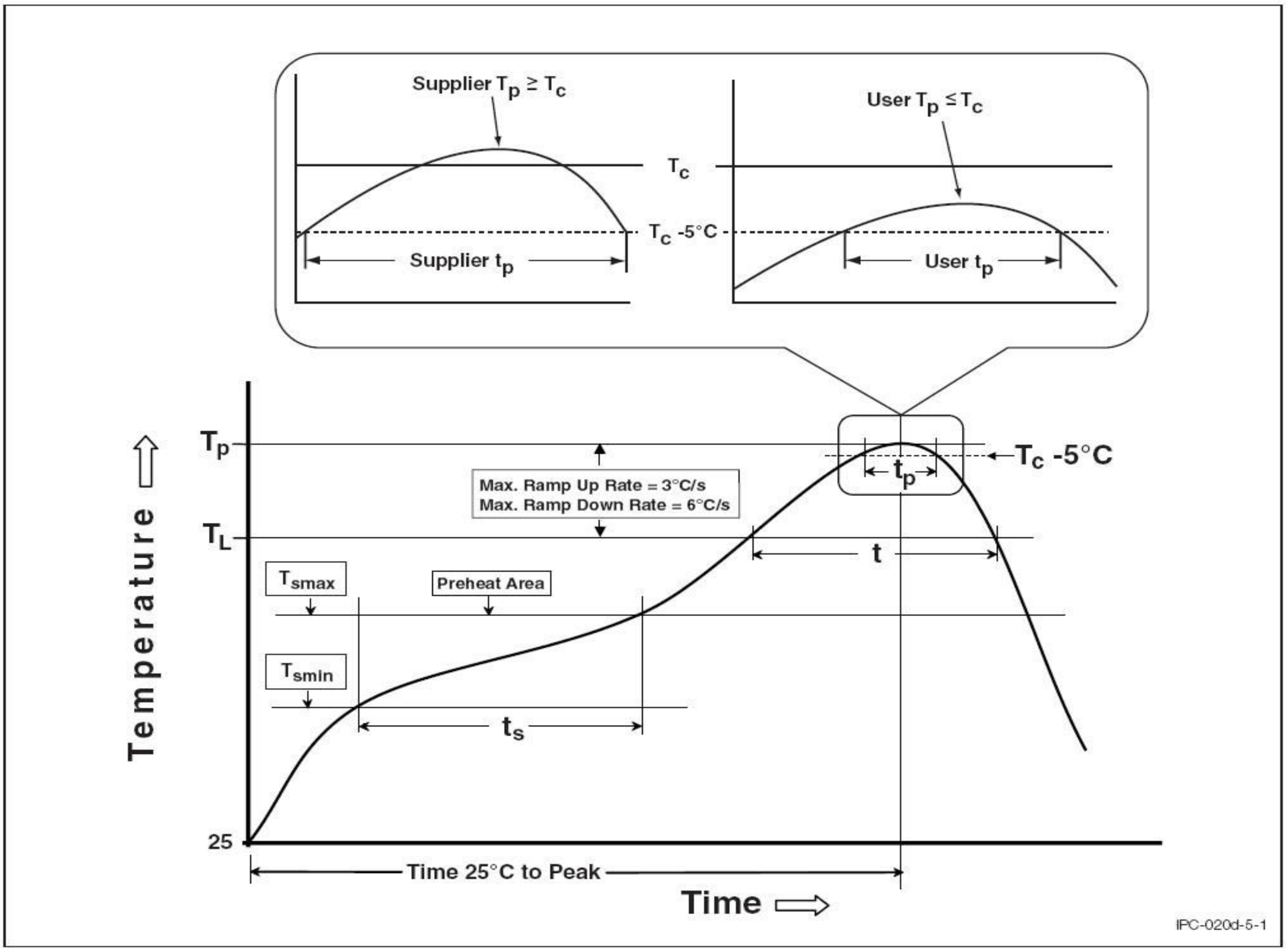


PAC IN! E"ANTITA

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-#

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