

： -357-()

：

：

一级代理商

深圳市弗瑞德电子有限公司

地址：深圳市宝安区西乡大道302号金源商务大厦B座三楼

0 -

0 - 0 0

.frxelec.

1. Features

- (1) Current transfer ratio(CTR : MIN. 50% at $I_F = 5\text{mA}$, $V_{CE} = 5\text{V}$, $T_a=25^\circ\text{C}$)
- (2) High input -output isolation voltage ($V_{ISO}=3,750\text{Vrms}$)
- (3) High collector-emitter voltage ($V_{CEO} = 80\text{V}$)
- (4) SOP-4 package
- (5) Operating Temperature -55°C to 125°C
- (6) ESD pass HBM 8000V/MM 2000V
- (7) Safety approval
 - UL approved(No.E323844)
 - VDE approved(No.40029733)
 - CQC approved (No.CQC19001231256)
- (8) In compliance with RoHS, REACH standards
- (9) MSL Class I



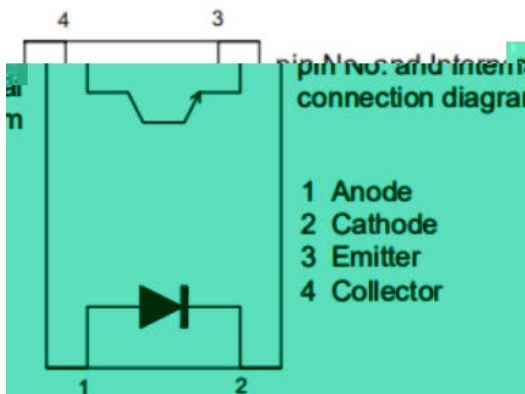
2. Instructions

- -357-() 4
- -357-() 2.54

3. Application Range

- (1)
- (2)
- (3)

4. Functional Diagram



5. Maximum Absolute Rated Value (Normal Temperature=25°C)

Parameter	Symbol	Rated Value	Unit
		50	°C
		125	
		6	
		70	
		80	°C
		7	
		50	
		150	
		200	
*1		3750	
		-55 + 125	°C
		-55 + 150	
*2		260	

*1. $\frac{1}{2} \times 100 = 40 \sim 60\%$

- (1)
- (2)
- (3)

*2. 10

6. Opto-electronic Characteristics

Parameter	Symbol	Min	Typ.*	Max	Unit	Condition
		---	1.2	1.4		$\lambda = 20$
		---	---	5		$\lambda = 5$
		---	30	250		$\lambda = 0, \lambda = 1$
		---	---	100		$\lambda = 20, \lambda = 0$
		80	---	---		$\lambda = 0.1, \lambda = 0$
		7	---	---		$\lambda = 0.1, \lambda = 0$
*1.		50	---	600	%	$\lambda = 5, \lambda = 5$
		2.5	---	30		
	()	---	---	0.2		$\lambda = 20, \lambda = 1$
		5×10^{10}	1×10^{11}	---		$\lambda = 500, \lambda = 40, \lambda = 60\%, \dots$
		---	0.6	1		$\lambda = 0, \lambda = 1$
		---	2.9	10		$\lambda = 2, \lambda = 2, \lambda = 100$
		---	4.5	10		

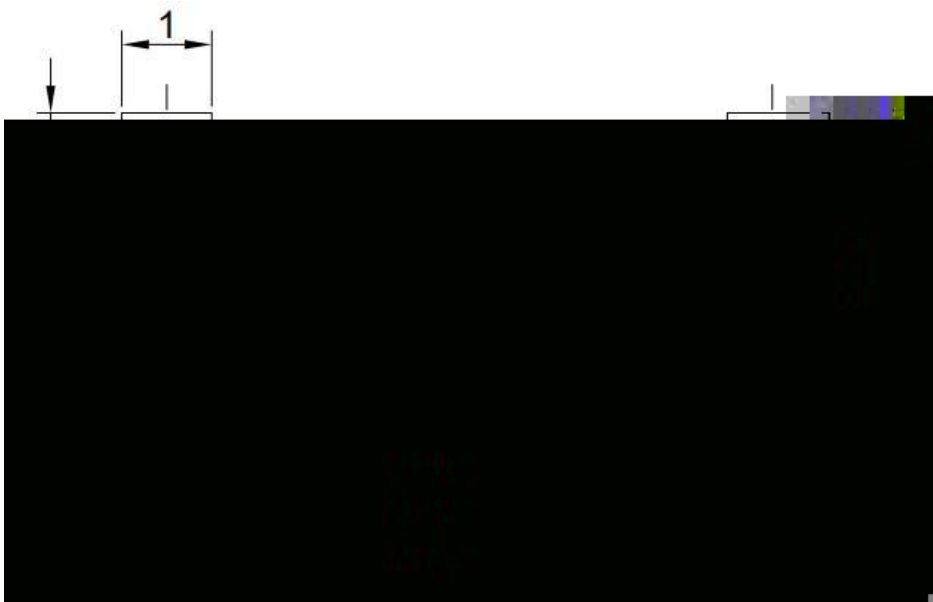
● = / 100%

9. Naming Rule

1. Manufacturer : ORIENT.
2. Part Number : 357.
3. Rank Code : CTR Rank
4. Year Code : '0' means '2020' and so on.
5. Week Code : 01 means the first week, 02 means the second week and so on.
6. VDE Code

10. Outer Dimension

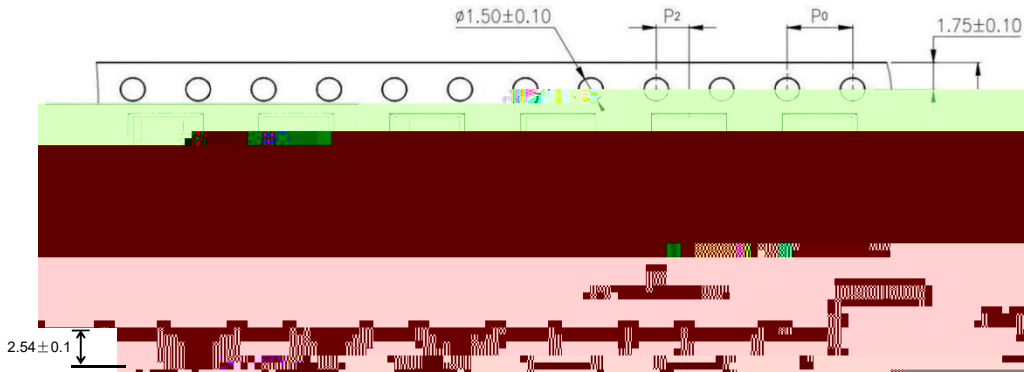
11. Recommended Foot Print Patterns (Mount Pad)



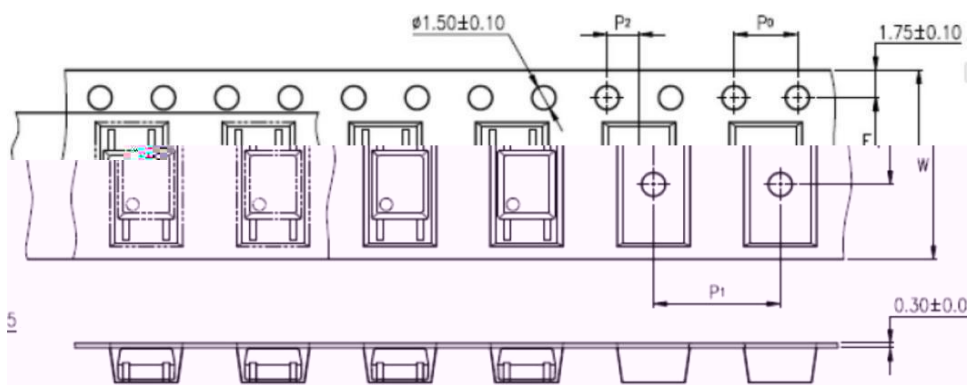
:

12. Taping Dimensions

(1) OR-357-TP



(2) OR-357-TP1



Description	S mbol	Dimension in mm(inch)
		12 0.3 (0.472)
	0	4 0.1 (0.157)
		5.5 0.1 (0.217)
	2	2 0.1 (0.079)
	1	8 0.1 (0.315)

Package T pe	TP/TP1
()	3000

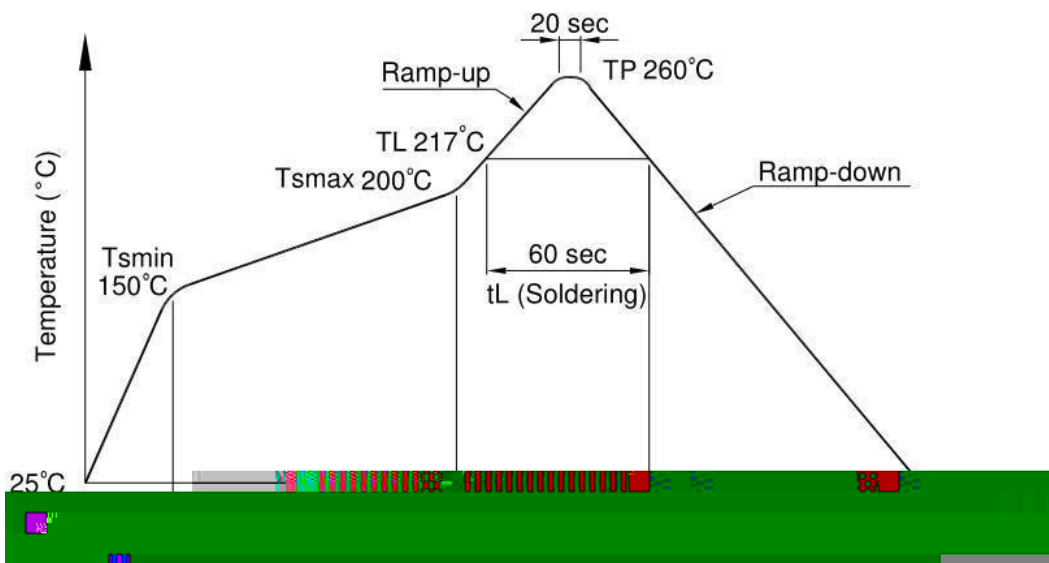
14. Reliability Test

NO.	ITEMS	Reliability Testing				
		QTY. (Pcs)	Condition	Process	Device	Standard
1	RSH 耐焊接热	22	260±5℃	10s/3 次	锡炉	JESD22-A106
2	HTSL 高温存储	77	125℃	168 hrs	高温烤箱 测试仪	JESD22-A103
				500 hrs		
				1000 hrs		
3	LTSL 低温存储	77	-55℃	168 hrs	低温箱 测试仪	JESD22-A119
				500 hrs		
				1000 hrs		
4	TC 温度循环	77	H:125℃ 15min ∫ 5min L:-55℃ 15min	300 cycle	冷热冲击机	JESD22-A104
5	TS 温度冲击	77	H:100℃ 5min ∫ 15s L:-40℃ 5min	300 cycle	冷热冲击机	JESD22-A106
6	HTOL 高温操作	77	110 C IF=10mA Vce=5V	168 hrs	高温烤箱 测试仪、老 化电路板	JESD22-A108
				500 hrs		
				1000 hrs		
7	ESD-HBM 人体模式	22	≥8KV 1Cycle	1次	ESD静电测 试仪	JESD22-A114
8	SD 可焊性	22	Pb-free 245±5℃	5S/1次	锡炉	JESD22-B102
9	HTRB 高温反向偏压	77	HTRB @125℃ Vce=80v	168 hrs	高温烤箱 , 测试仪	JESD22-A103
				500 hrs		
				1000 hrs		
10	H3TRB 温湿度反向偏 压, 寿命试验	77	H3TRB 85℃,85%RH Vce=80v	168 hrs	恒温恒湿 机, 测试仪	JESD22-A101
				500 hrs		
				1000 hrs		
11	Autoclave 压力锅	77	Ta=121 ℃,100%RH,2atm	96hrs	压力锅	JESD22-A102

15. Temperature Profile Of Soldering

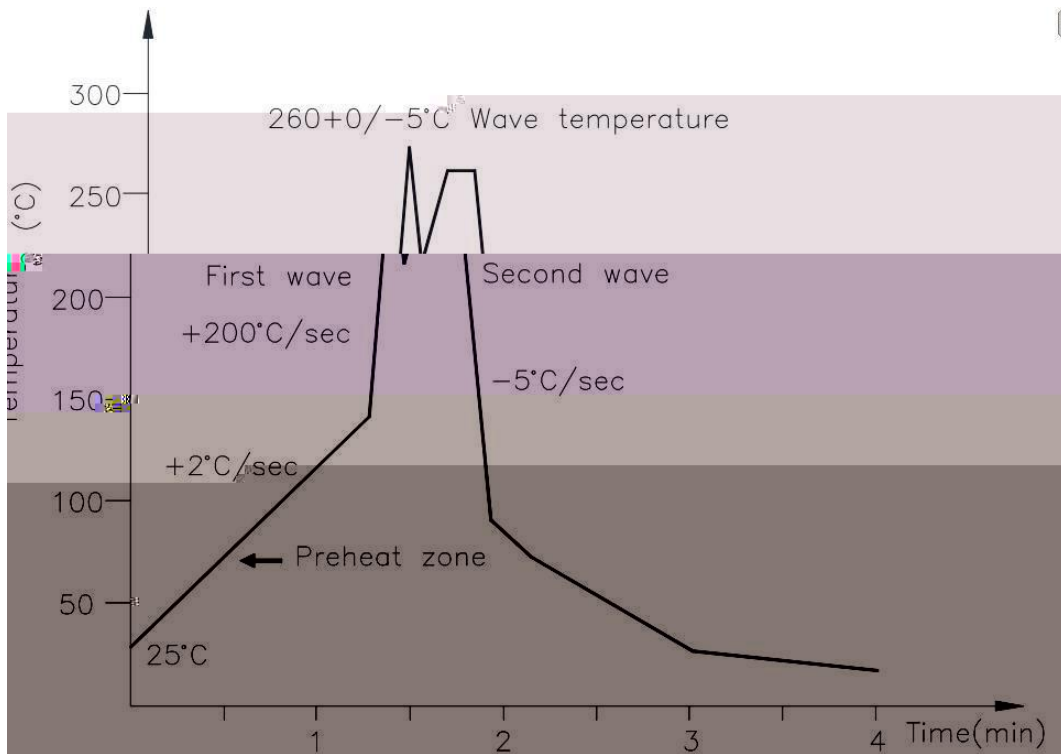
(1) (- -020)

Profile item	Conditions
- ()	150
- ()	200
- () ()	90 30
- ()	217
- ()	60
	260
	20
-	3 /
-	3 6 /
	≤3



(2) (22 111)

	260+0/-5
	10
	25 140
	30 80



(3)

	380+0/-5
	3

16. Characteristics Curves

Fig.1 Forward current vs Ambient temperature

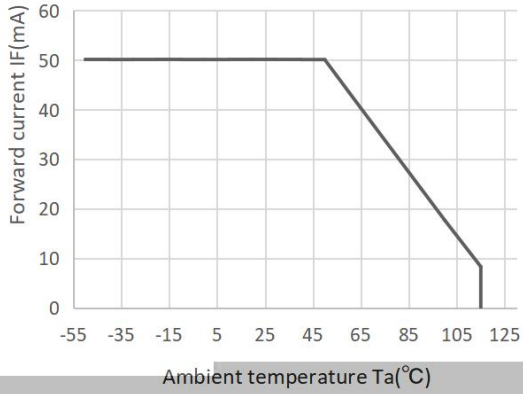


Fig.2 Collector Power Dissipation vs. Ambient temperature

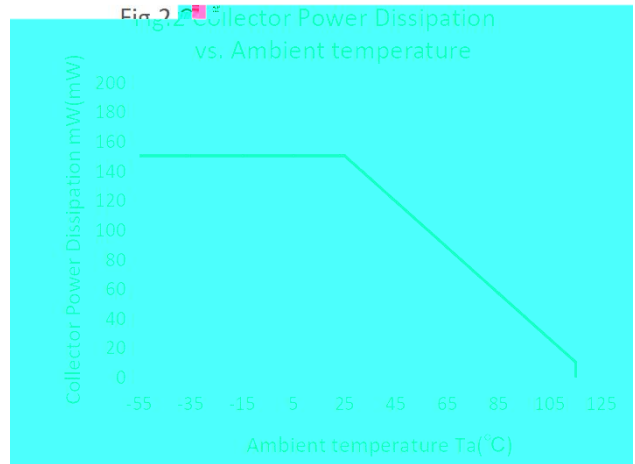


Fig.3 Collector-emitter Saturation Voltage vs. Forward Current

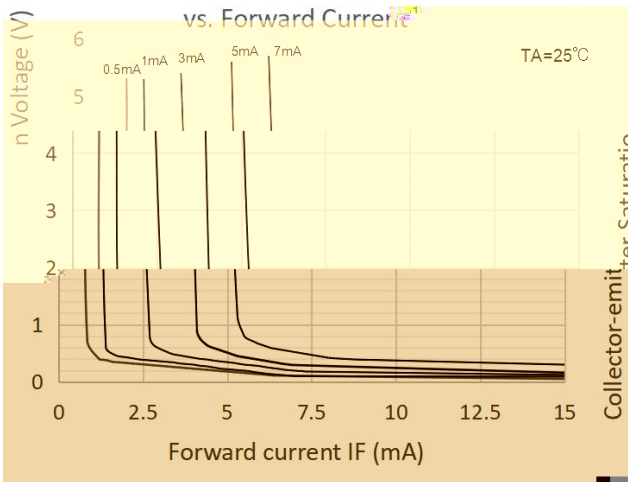


Fig.4 Forward Current vs. Forward Voltage

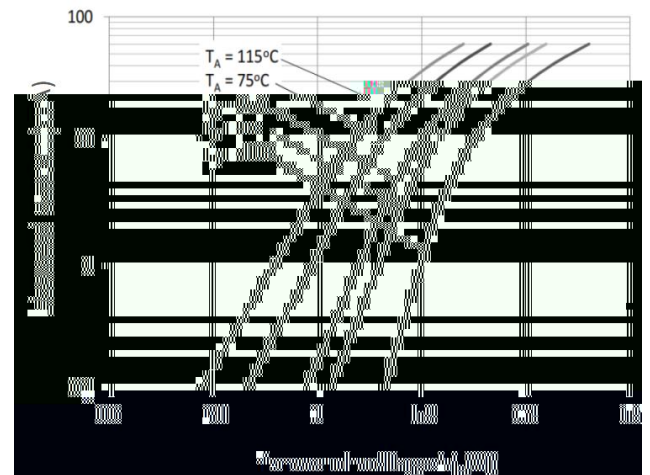


Fig.5 Forward Current vs. Current Transfer Ratio

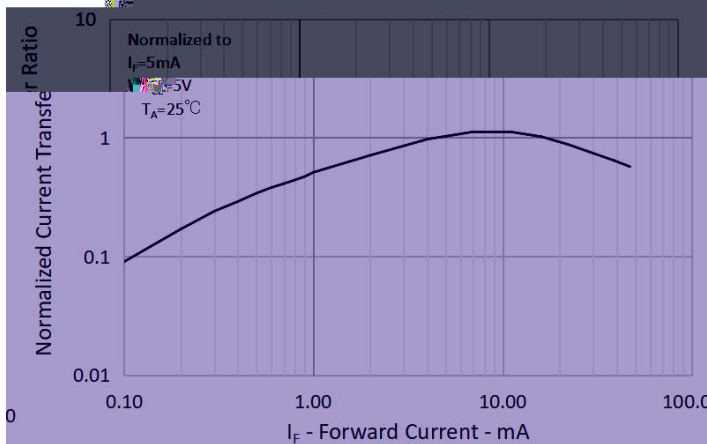


Fig.6 Collector Current vs. Collector-emitter Voltage

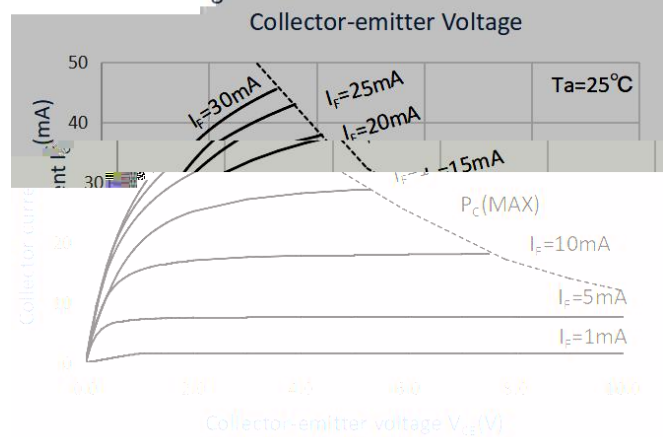


Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature

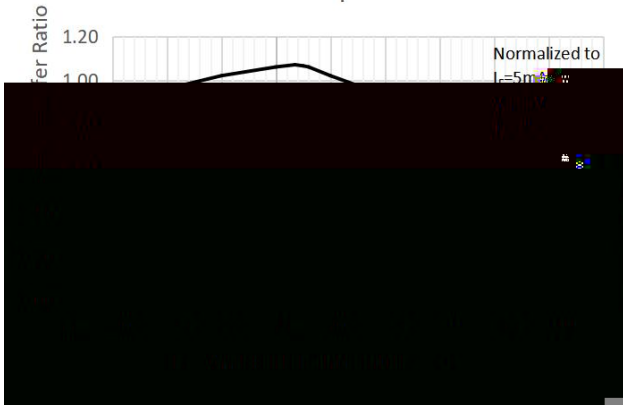


Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

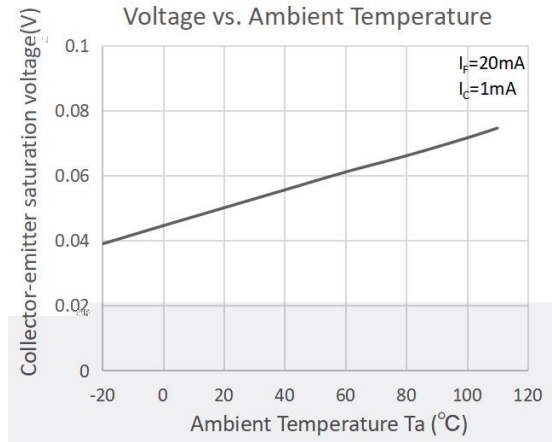


Fig.9 Collector Dark Current vs. Ambient Temperature

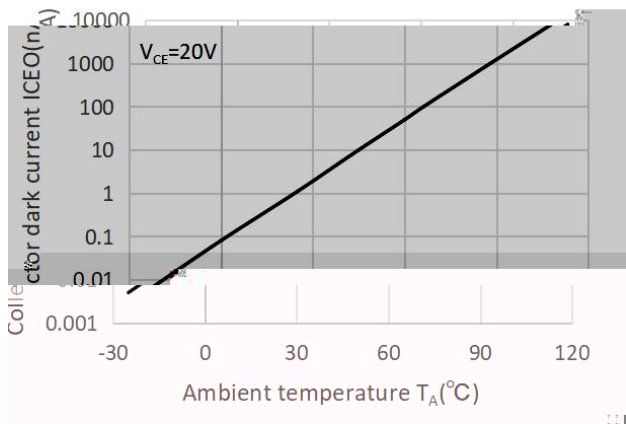


Fig.10 Response Time vs. Load Resistance

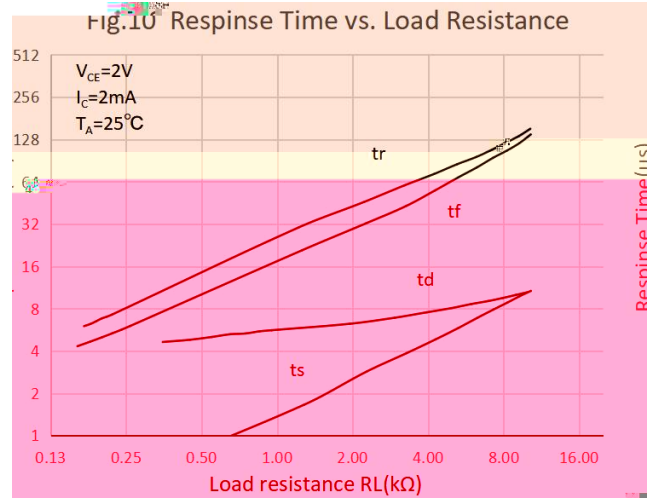
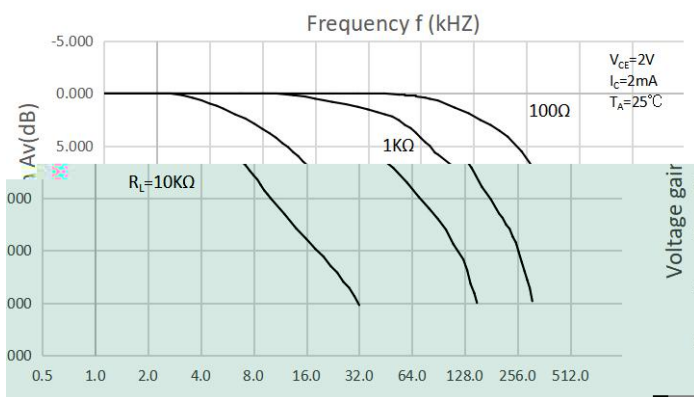
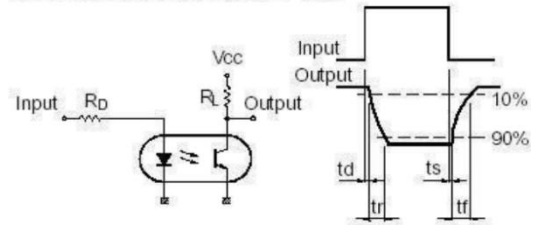


Fig.11 Frequency Response



Test Circuit for Response Time



Test Circuit for Frequency Response

