



: _____-357-() _____
: _____
: _____

一级代理商：

深圳市弗瑞鑫电子有限公司

地址：深圳市宝安区西乡大道302号金源商务大厦B座三楼

frxelec



1. Features

- (1) Current transfer ratio (CTR) MIN. 50% at $I_F = 5mA, V_{CE} = 5V, T_a = 25^\circ C$
- (2) High input-output voltage (VISO=3,750Vrm)
- (3) High collector-emitter voltage (VCEO = 80V)
- (4) SOP-4 package
- (5) Operating Temperature -55 to 125
- (6) ESD protection HBM 8000V/MM 2000V
- (7) Safe approval
 - UL approved (No. E32444)
 - VDE approved (No. 4029733)
 - CQC approved (No. C19001231256)
- (8) In compliance with RoHS, REACH standard
- (9) MSL Class I



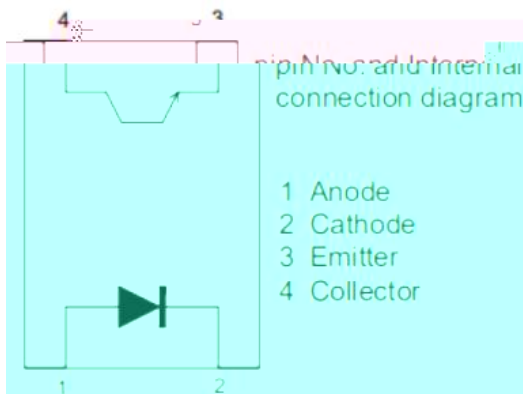
2. Instructions

- OR-357-() 4
- OR-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)

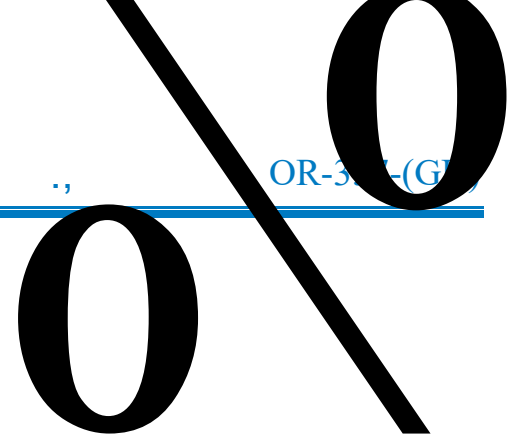
*2. 10



6. Opto-electronic Characteristics

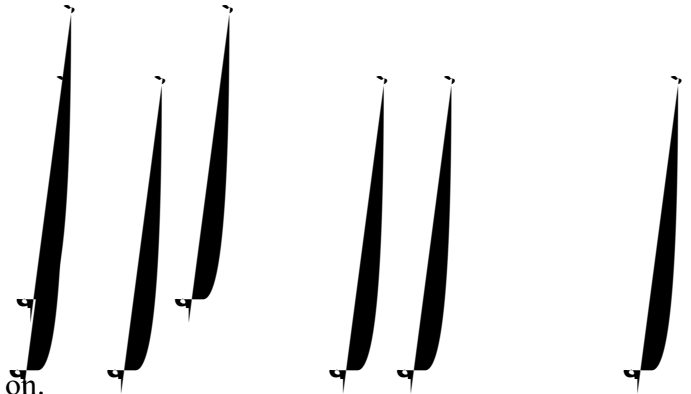
Parameter	Symbol	Min	Typ.*	Max	Unit	Condition
		---	1.2	1.4		$V_{CE} = 20$
		---	---	5		$V_{CE} = 5$
		---	30	250		$V_{CE} = 0, I_C = 1$
		---	---	100		$V_{CE} = 20, I_C = 0$
		80	---	---		$V_{CE} = 0.1, I_C = 0$
		7	---	---		$V_{CE} = 0.1, I_C = 0$
*1.		50	---	600	%	$V_{CE} = 5, I_C = 5$
		2.5	---	30		
	()	---	---	0.2		$V_{CE} = 20, I_C = 1$
		5×10^{10}	1×10^{11}	---		$V_{CE} = 500, I_C = 40, 60\% \dots$
		---	0.6	1		$V_{CE} = 0, I_C = 1$
		---	2.9	10		$V_{CE} = 2, I_C = 2, I_{C1} = 100$
		---	4.5	10		

● = / 100%



9. Naming Rule

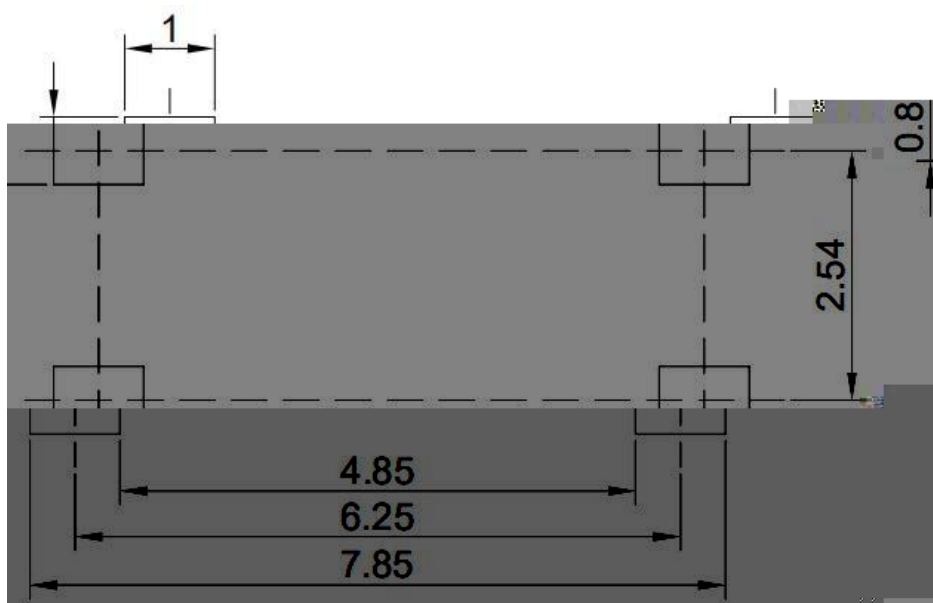
1. Manufacturer : ORIENT.
2. Part Number : 357.
3. Rank Code : CTR Rank
4. Year Code : '0' mean '2020' and so on.
5. Week Code : 01 mean the first week, 02 mean the second week and so on.
6. VDE Code





10. Outer Dimension

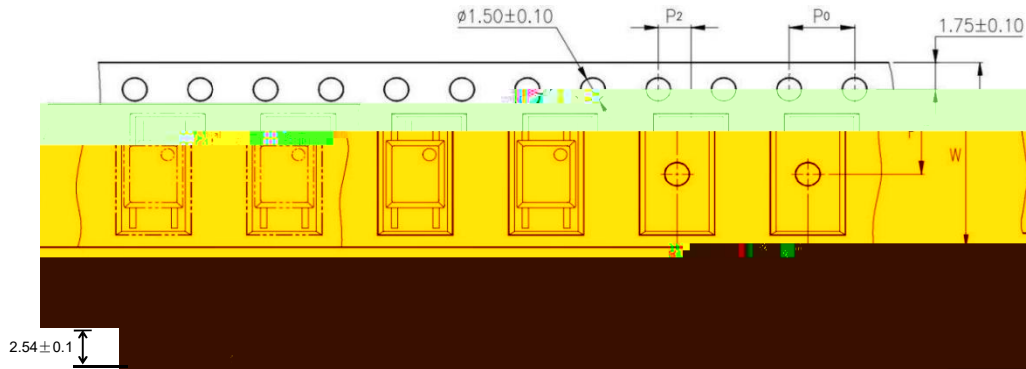
11. Recommended Foot Print Patterns (Mount Pad)



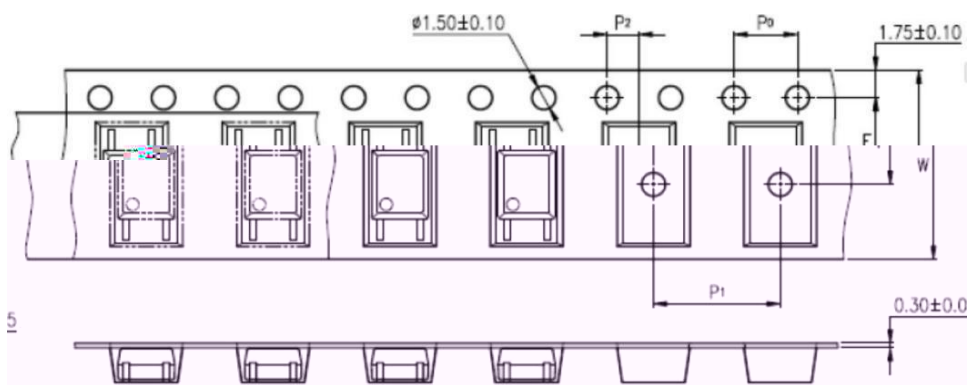
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12. Taping Dimensions

(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



13. Packaging Information

(1) package dimension

Packing Information	
Packing type	Reel type
Tape Width	12mm
Qty per Reel	3,000pc
Small box (inner) Dimension	345*345*45mm
Large box (Outer) Dimension	480 360 360mm
Qty per small box	6,000pc
Qty per large box	60,000pc

(2)Packing Label Sample



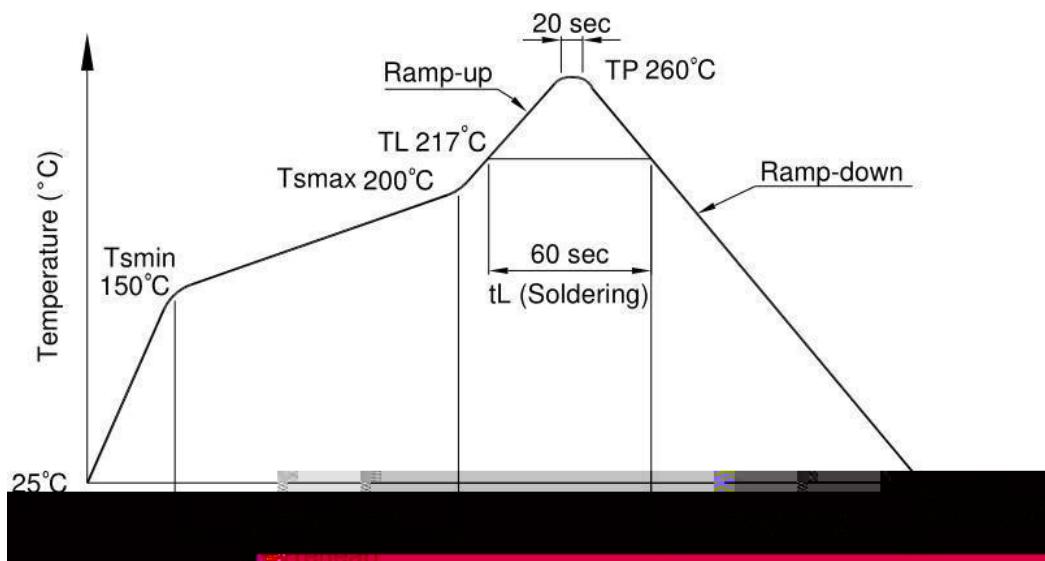
14. Reliability Test

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







16. Characteristics Curves

Fig.1 Forward current vs Ambient temperature

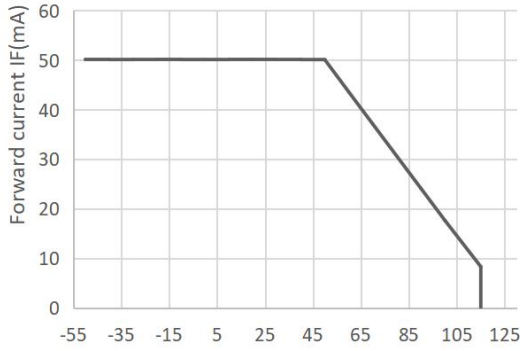


Fig.2 Collector Power Dissipation vs. Ambient temperature

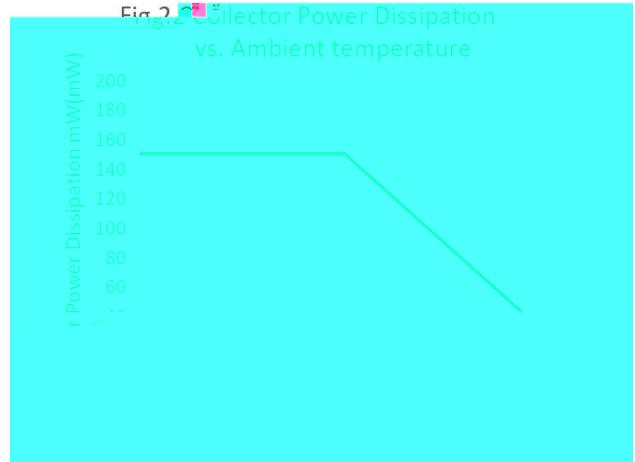


Fig.3 Collector-emitter Saturation Voltage vs. Forward Current

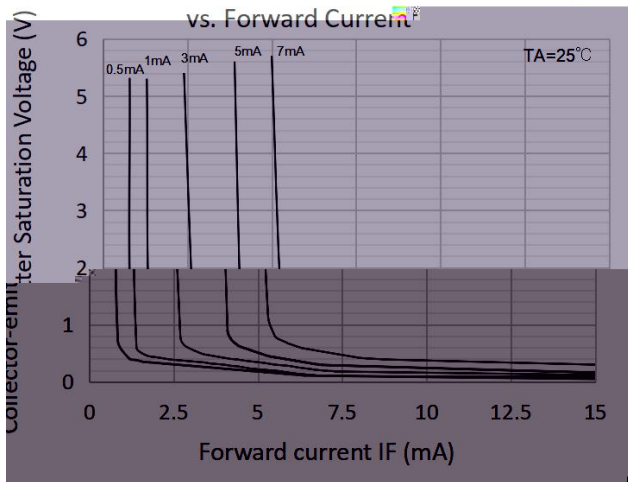


Fig.4 Forward Current vs. Forward Voltage

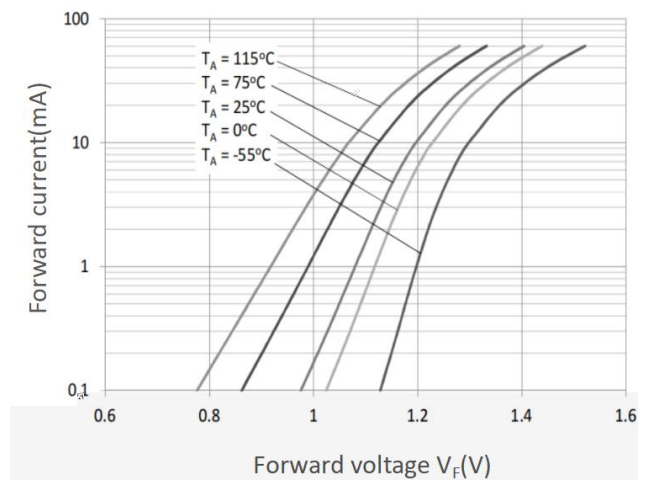


Fig.5 Forward Current vs. Current Transfer Ratio

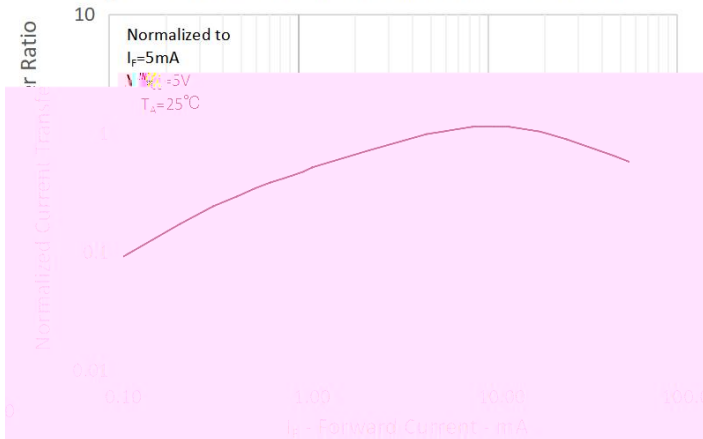


Fig.6 Collector Current vs. Collector-emitter Voltage

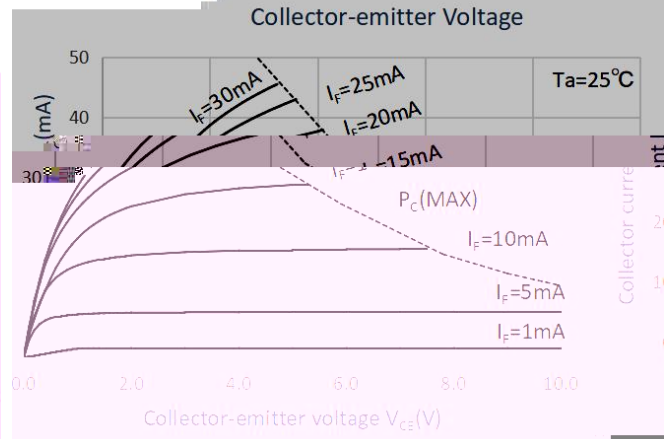




Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature

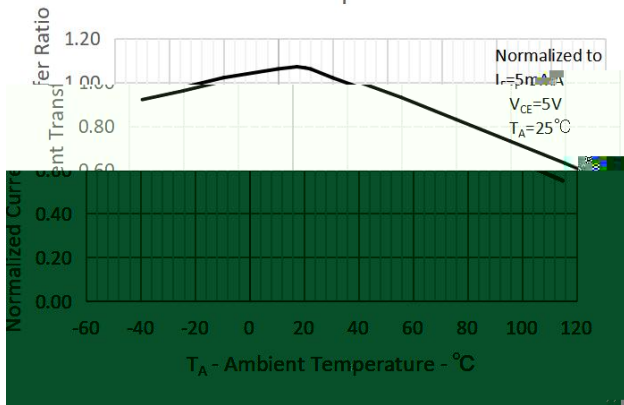


Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

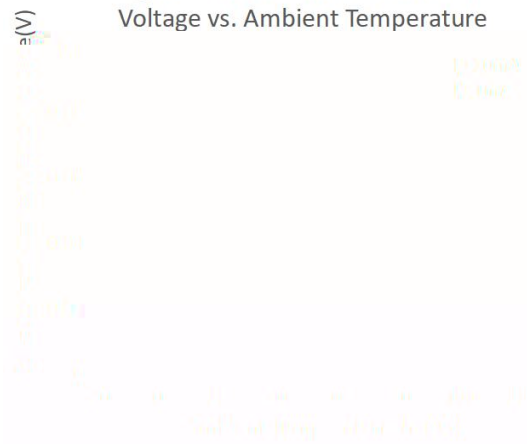


Fig.9 Collector Dark Current vs. Ambient Temperature



Fig.10 Response Time vs. Load Resistance

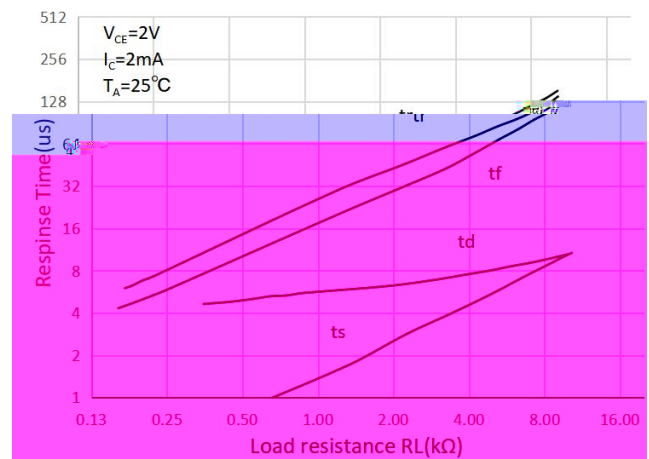
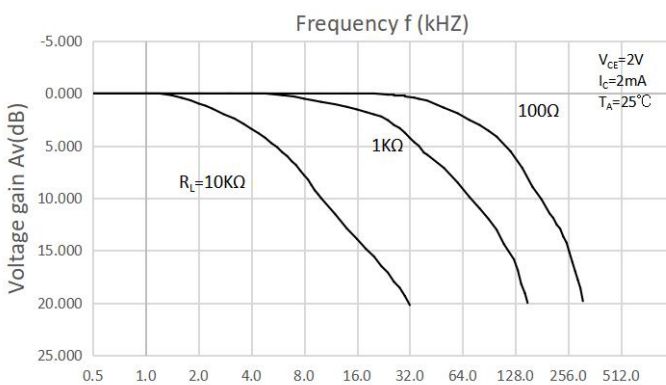
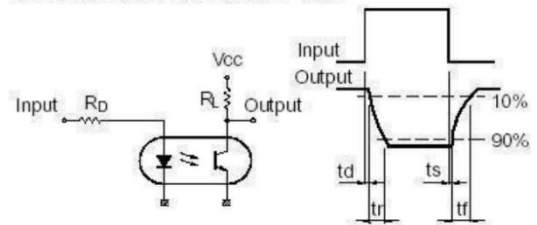


Fig.11 Frequency Response



Test Circuit for Response Time



Test Circuit for Frequency Response

