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Shenzhen Orient Components Co., Ltd

OR-10XX

ORIENT

Photocoupler

Product Data Sheet

Name: OR-10XX

Customer: _____

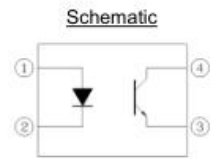
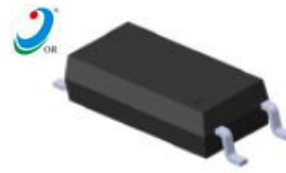
Date: _____

A B A3 F
: _____

3 DUN + XDQJ * H 5 G / RQJ * DQJ * LVW 6 KHQJ KHQ * XDQJGRQJ

1. Features

- (1) C
 (C : 50 600% IF = 5 A, CE = 5)
 (C : 63 320% IF = 10 A, CE = 5)
- (2) H - (= 5,000)
- (3) H - (CE = 70)
- (4) -55 ➤ 110 ➤
- (5) C > 8
- (6) E
- (7) L - : 2.3 : -10



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

2. Description

The OR-10XX series devices consist of an infrared emitting diode, optically coupled to a phototransistor detector. They are packaged in a 4-pin SOP package.

3. Applications

- (1)
- (2)
- (3)
- (4) H , , .
- (5)

4. Absolute Maximum Ratings (Ta=25 ➤)

Input	Forward Current	I _F	60	mA
	Junction Temperature	T _J	125	➤
	Reverse Voltage	V _R	6	V
	Consume Power	P	100	mW
Output	Collector and emitter Voltage	V _{CEO}	80	V
	Emitter and collector Voltage	V _{ECO}	7	
	Collector Current	I _C	50	mA
	Consume Power	P _C	150	mW
Total Consume Power		P _{tot}	250	mW
*1 Insulation Voltage		V _{iso}	5000	Vrms
Working Temperature		T _{opr}	-55 to + 110	➤
Deposit Temperature		T _{stg}	-55 to + 125	
*2 Soldering Temperature		T _{sol}	260	

Notes

*1 AC for 1 minute, R.H.= 40 ~ 60% R.H. In this test, pins 1, 2 are shorted together, and pins 3, 4 are shorted together.

* 2 For 10 seconds

5. Electrical Optical Characteristics at Ta=25°C

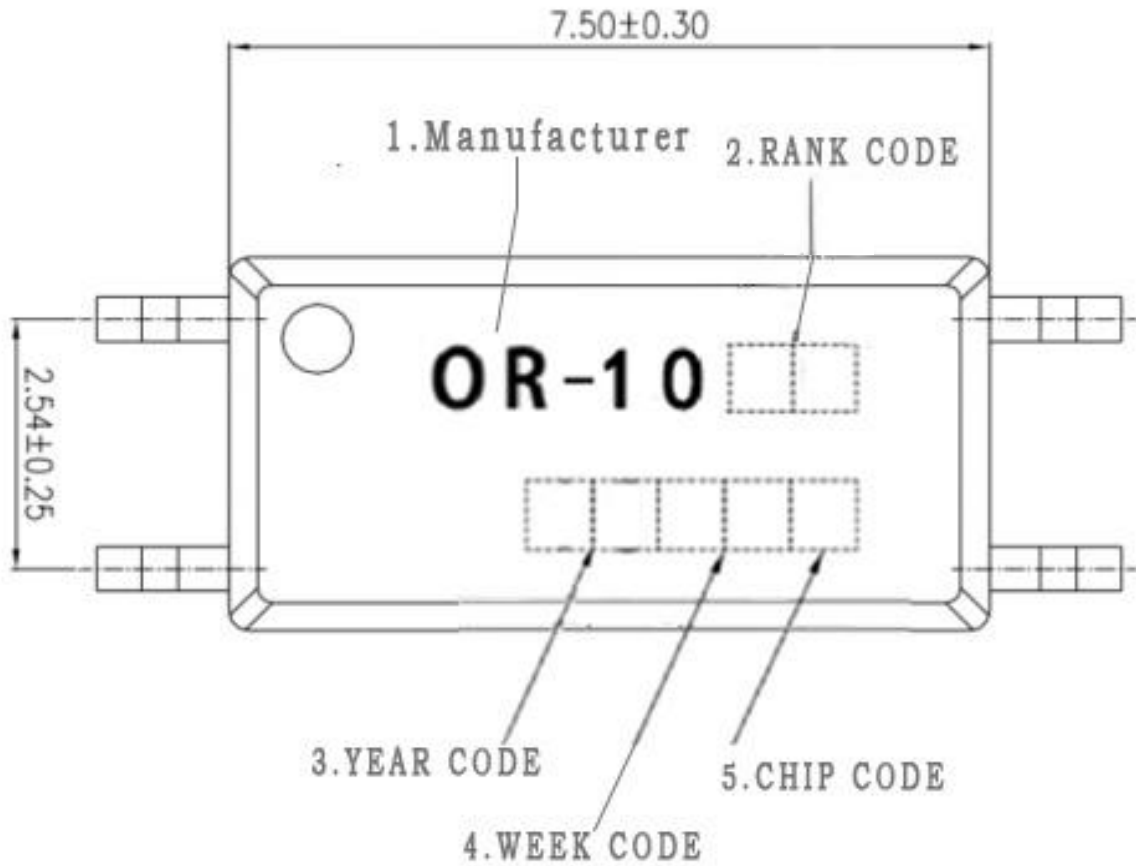
Input	F C	V_F	$I_F=50mA$	---	1.25	1.6	V
		I_R	$V_R=4V$	---	---	10	μA
	C	C_t	$V=0, f=1MHz$	---	50	---	pF
Output	C C	I_{CEO}	$V_{CE}=20V,$ $I_F=0mA$	---	10	100	nA
	C E	BV_{CEO}	$I_C=1mA$ $I_F=0mA$	80	---	---	V
	E C	BV_{ECO}	$I_E=0.1mA$ $I_F=0mA$	7	---	---	V
Transforming Characteristics	*1 C	CTR	$I_F=5mA$ $V_{CE}=5V$	50	---	600	%
	C C	I_C		2.5	---	30	mA
	C E	$V_{CE(sat)}$	$I_F=10mA$ $I_C=1mA$	---	---	0.3	V
	I I	R_{iso}	DC500V 40~60%R.H.	10^{12}	---	---	Ω
	F C	C_f	$V=0, f=1MHz$	---	0.3	---	pF
		t_r	$V_{CC}=5V,$ $I_C=2mA$	---	3	18	μs
	D	t_f	$R_L=100\Omega$	---	4.7	18	μs





*1 C C = I_C / I_F 100%, C : 3%.

6. Rank Table of Current Transfer Ratio

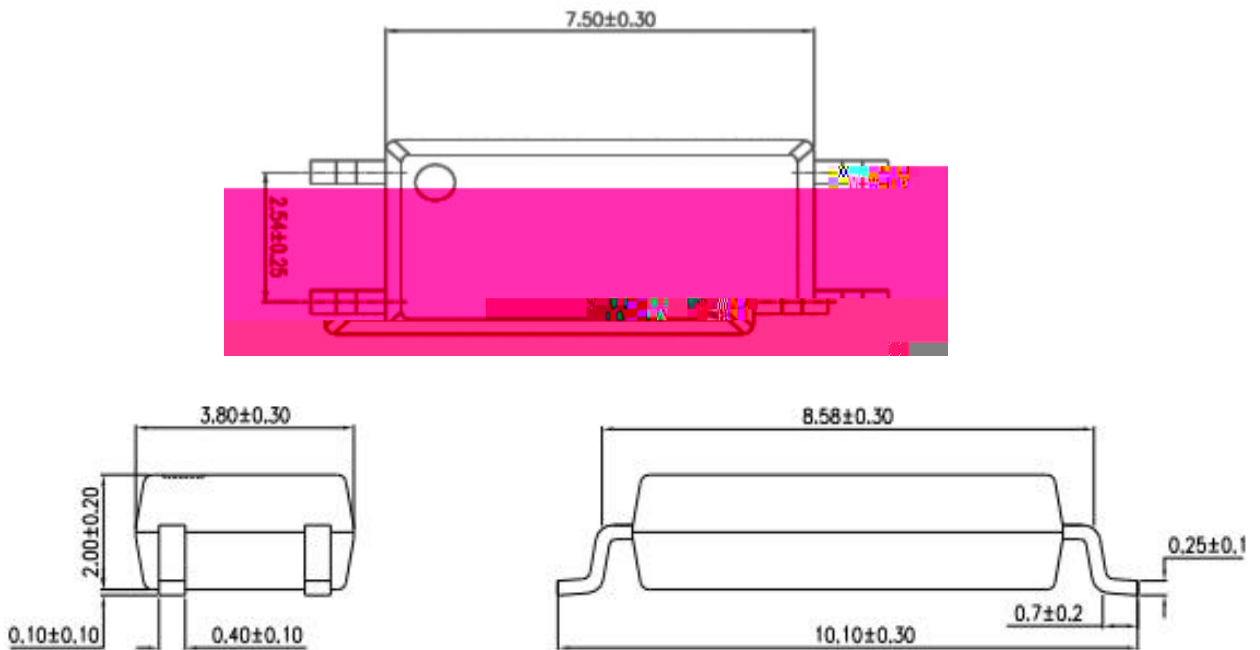
-1000	50	600	
-1001	100	160	
-1004	100	200	
-1005	50	150	
-1006	100	300	
-1007	80	160	% IF=5 A, CE=5 , =25
-1008	130	260	
-1009	200	400	
-1010	150	300	
-1019	250	500	
-1020	300	450	
-1002	22		

7.Naming Rule

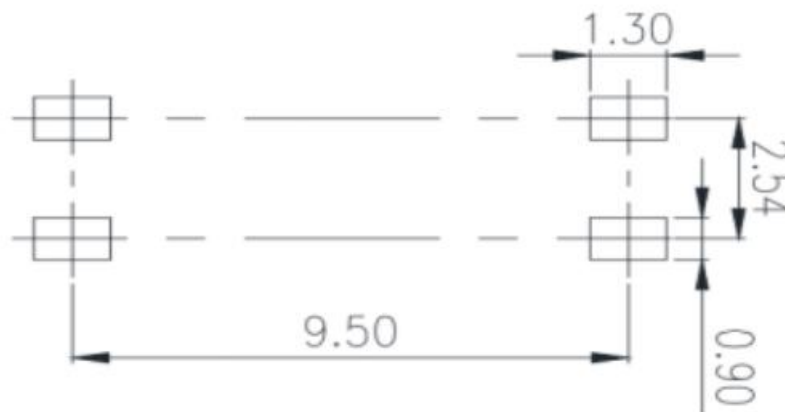


- (1) L . C . , L .
- (2)  C .
- (3)  .
- (4)  .
- (5)  C C
- (6) -10 D .
- (7) :

8. Package Dimension

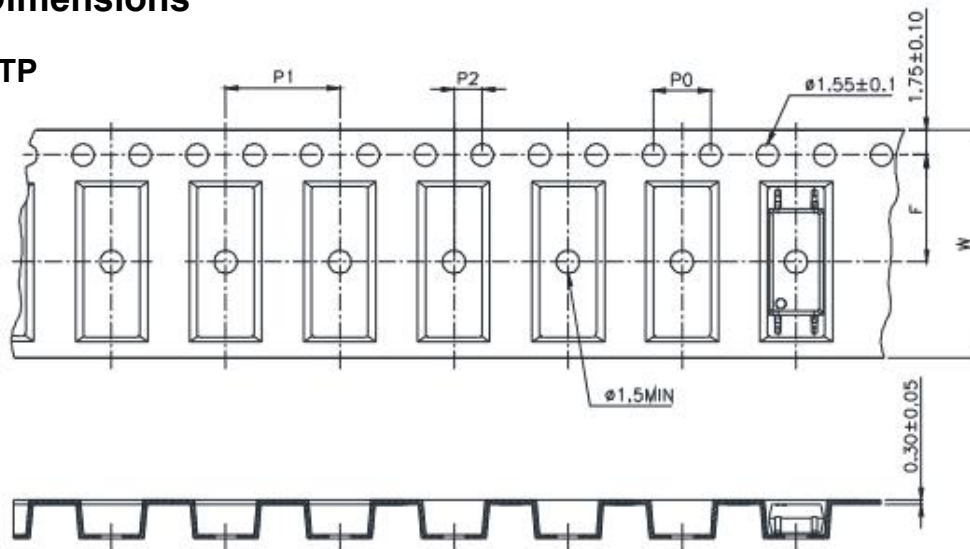


9. RECOMMENDED FOOT PRINT PATTERNS (MOUNT PAD)

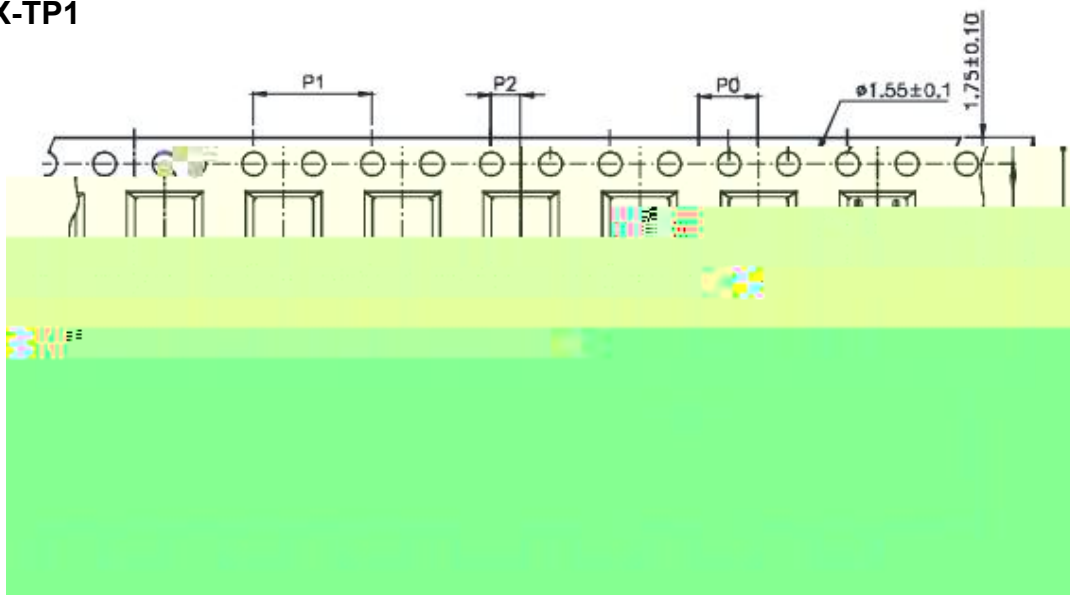


10. Taping Dimensions

(1) OR-10XX-TP



(2) OR-10XX-TP1



D		D ()
		16 0.3 (0.63)
	0	4 0.3 (0.15)
D	F	7.5 0.1 (0.295)
	2	2 0.1 (0.079)
D	1	8 0.1 (0.315)

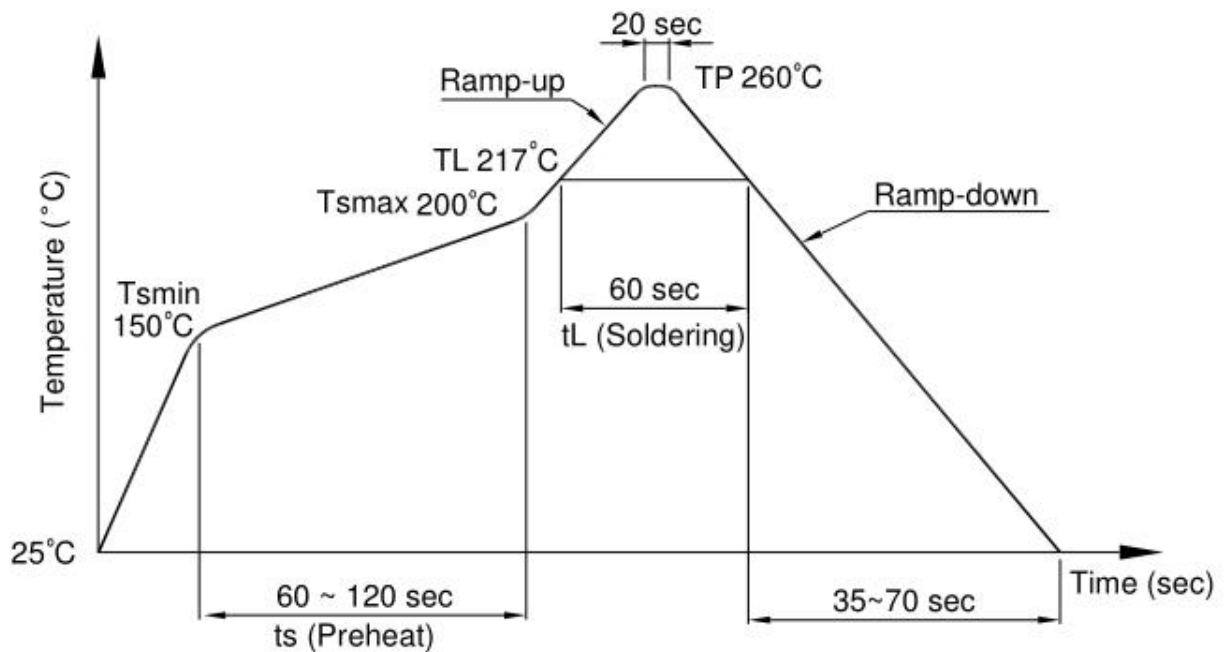
	-10 (/ 1)
()	3000

11. Temperature Profile Of Soldering

(1).IR Reflow soldering (JEDEC-STD-020C compliant)

. D

	C
- ()	150 C
- ()	200 C
- () ()	90 30
- (L)	217 C
- (L)	60
()	260 C
-	3 C /
-	3 6 C /



12.Characteristics Curves

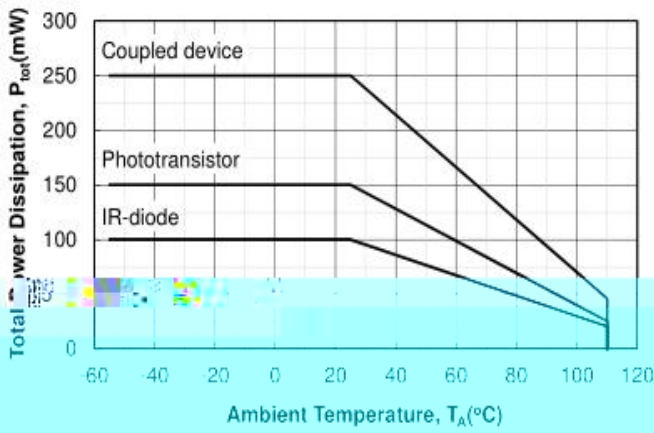


Figure 1. P_{tot} vs. T_A

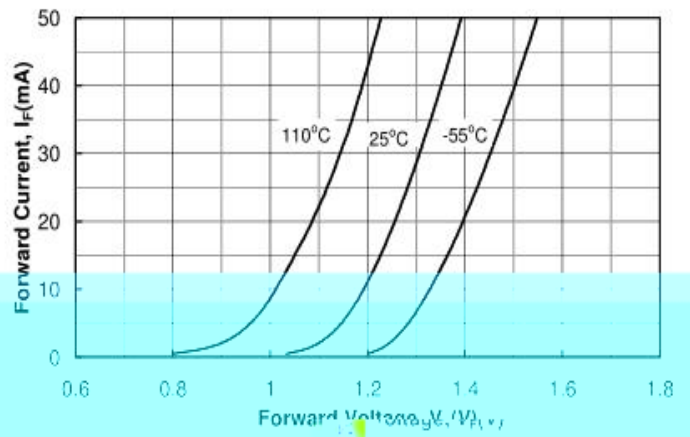
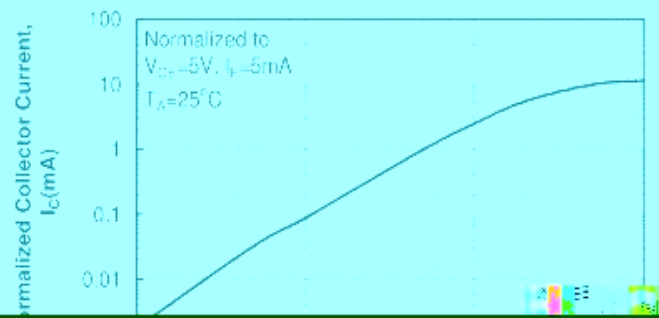
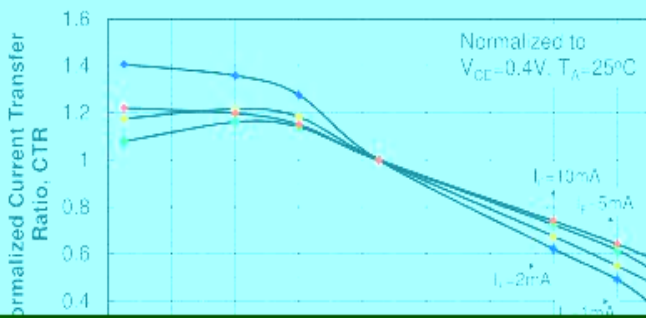


Figure 4. I_F vs. V_F



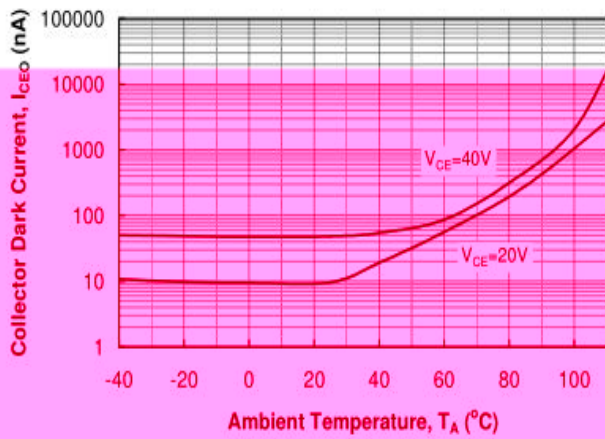


Figure 7. I_{CEO} vs. T_A

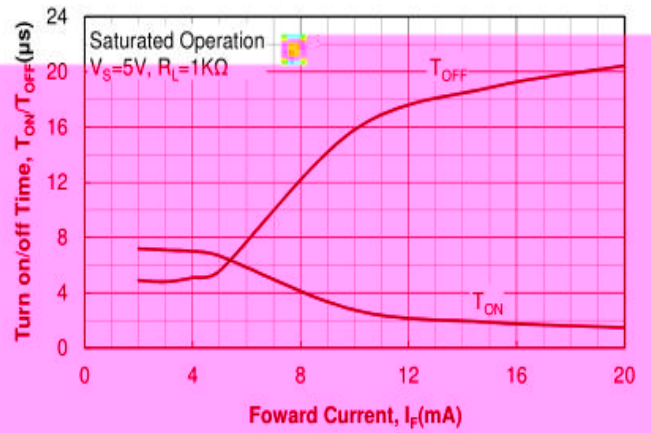


Figure 10. T_{ON} / T_{OFF} vs. I_F

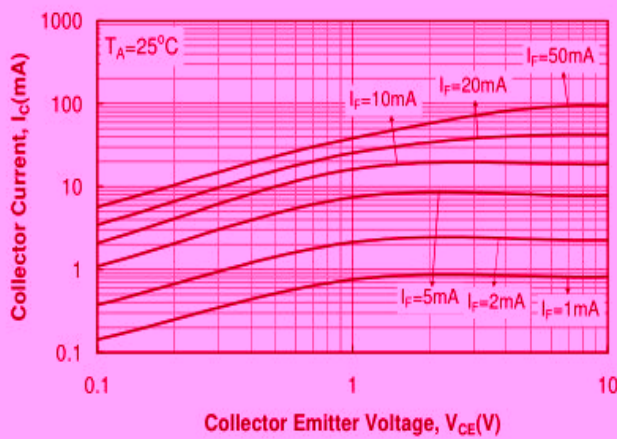


Figure 8. I_C vs. V_{CE}

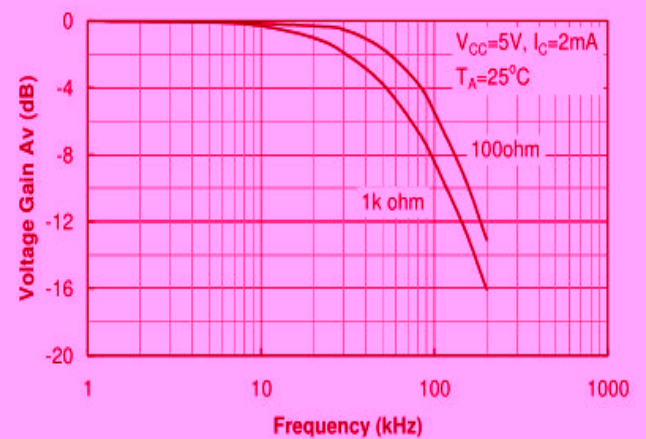


Figure 11. Frequency Response

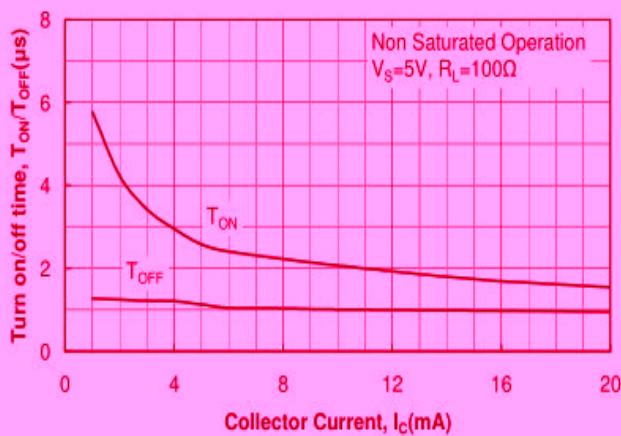


Figure 9. T_{ON} / T_{OFF} vs. I_C



► Notes:

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