

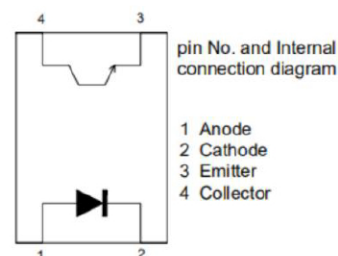
1. Features

- Current transfer ratio(CTR : MIN. 50% at $I_F = 5\text{mA}$, $V_{CE} = 5\text{V}$, $T_a=25^\circ\text{C}$)
- High input -output isolation voltage ($V_{ISO}=3,750\text{Vrms}$)
- High collector-emitter voltage ($V_{CEO} = 80\text{V}$)
- SOP-4 package
- -55°C to 110°C
- In compliance with RoHS, REACH standards
- MSL Class I



2. Instructions

- The OR-357 series device consists of an infrared led, photo transistor detector. They are encapsulated in a 4 pin SOP encapsulation.
- Pin pitch of OR-357 is 2.54mm



3. Application Range

- Hybrid substrates that require high density mounting.
- Programmable controllers
- System appliance, measuring instruments

4. Max Absolute rated Value (Normal Temperature= 25°C)

	Parameter	Symbol	Rated Value	Unit
Input	Forward Current	I_F	50	mA
	Junction Temperature	T_J	125	$^\circ\text{C}$
	Reverse Voltage	V_R	6	V
	Consume Power	P	70	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}	200	mW
*1 Insulation Voltage		V_{iso}	3750	Vrms
Working Temperature		T_{opr}	-55 to + 110	$^\circ\text{C}$
Deposit Temperature		T_{stg}	-55 to + 125	
*2 Soldering Temperature		T_{sol}	260	

- *1. AC Test, 1 minute, humidity = 40~60%
Insulation test method as below:
(1) Short circuit both terminals of photo coupler.
(2) No Current when testing insulation voltage.
(3) Adding sine wave voltage when testing.
- *2. soldering time is 10 seconds.

5. Opto-electronic Characteristics

Parameter		Symbol	Min	Typ.*	Max	Unit	Condition
Input	Forward Voltage	V _F	---	1.2	1.4	V	I _F =20mA
	Reverse Current	I _R	---	---	5	μA	V _R =5V
	Collector capacitance	C _t	---	30	250	pF	V=0, f=1KHz
Output	Collector to emitter Current	I _{CEO}	---	---	100	nA	V _{CE} =20V, I _F =0mA
	Collector and Emitter attenuation Voltage	BV _{CEO}	80	---	---	V	I _C =0.1mA I _F =0mA
	Emitter and Collector attenuation Voltage	BV _{ECO}	7	---	---	V	I _E =0.1mA I _F =0mA
Transforming Characteristics	*1.Current conversion ratio	CTR	50	---	600	%	I _F =5mA V _{CE} =5V
	Collector Current	I _C	2.5	---	30	mA	
	Collector and Emitter Saturation Voltage	V _{CE(sat)}	---	---	0.2	V	I _F =20mA I _C = 1mA
	Insulation Impedance	R _{iso}	5×10 ¹⁰	1×10 ¹¹	---	Ω	DC500V 40~60%R.H.
	Floating Capacitance	C _f	---	0.6	1	pF	V=0, f=1MHz
	Response Time	t _r	---	4	18	μs	V _{CC} =2V, I _C =2mA , R _L =100Ω
	Descend Time	t _f	---	3	18	μs	

- Current Conversion Ratio = I_C / I_F × 100%

6. Rank table of current transfer ratio CTR (tolerance:±3%)

CTR Rank	Min.	Max.	Condition
A	80	160	$I_F=5mA, V_{CE}=5V, T_a=25^{\circ}C$
B	130	260	
C	200	400	
D	300	600	
No mark	50	600	

7. Order Information

Part Number

OR-357X-W-Y-Z

Note

X = CTR Rank (A, B, C, D or none)

W = Tape and reel option (TP or TP1).

Y = 'V' code for VDE safety (This options is not necessary).

Z = 'G' code for Halogen free .

* VDE Code can be selected.

Option	Description	Packing quantity
TP	Surface mount lead form (low profile) + TP tape & reel option	3000 units per reel
TP1	Surface mount lead form (low profile) + TP1 tape & reel option	3000 units per reel