The IRD1 is an hybrid circuit that allows to realize an infrared barrier when utilized with an infrared pulse transmitter (IRT1).

IRD1 detect IR pulses and activate the output signal when the barrier is interrupted by an object.

It shows stable electric characteristics thanks to the "Thick film hybrid" technology.

### General description

**Features**
- High RFI Immunity
- SIL Package

**Applications**
- Residential and commercial security systems
- Automatic doors opening systems
Electrical Characteristics

<table>
<thead>
<tr>
<th>CHARACTERISTICS</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>$V_{cc1}$ Supply Voltage</td>
<td>18</td>
<td>24</td>
<td>32</td>
<td>VDC/VAC</td>
</tr>
<tr>
<td>$V_{cc2}$ Supply Voltage</td>
<td>9</td>
<td>12</td>
<td>18</td>
<td>VDC/VAC</td>
</tr>
<tr>
<td>$I_s$ Supply Current</td>
<td>3</td>
<td></td>
<td></td>
<td>mA</td>
</tr>
<tr>
<td>$F_{IR}$ Infrared Pulse Frequency</td>
<td>300</td>
<td>400</td>
<td></td>
<td>Hz</td>
</tr>
<tr>
<td>$I_o$ Out Sink Current</td>
<td></td>
<td>20</td>
<td></td>
<td>mA</td>
</tr>
<tr>
<td>$T_{OP}$ Operating Temperature Range</td>
<td>-20</td>
<td>80</td>
<td></td>
<td>°C</td>
</tr>
</tbody>
</table>

Ta = 25°C unless otherwise specified

Pin Description

1   GND   Ground
2   FTD-A Photodiode Anode
3   FTD-K Photodiode Katode
4-12 Voc Supply Voltage of Internal Stage
7   Out  Output Signal (Low if impulse received)
8   LED  Led Control Signal
9   Out1 Output Signal (High if impulse received)
13  C_{EXT} External Filter Capacitor
14  Vcc1* 24V DC/AC Supply Voltage
15  Vcc2* 12V DC/AC Supply Voltage

* Only one power supply voltage is necessary (12 or 24 V)

Mechanical Dimensions

Components Side

38.1 mm
10.9 mm
2.54 mm

TYPICAL APPLICATION

IRT1 = Infrared Pulse Transmitter
(see Data Sheet)

IRDT: TSHA 5200 - 5203 Temic
Photodiode: BPW 43 - BP104 Temic

HEAD OFFICE & PLANT
Via Naz. delle Puglie 177
80026 Casoria (NA), Italy
Tel: +39 081 7599033
Fax: +39 081 7596494