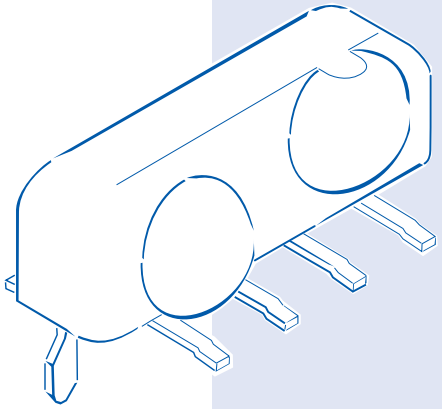
TFDS4000

TEMIC
Semiconductors

Integrated Transceiver



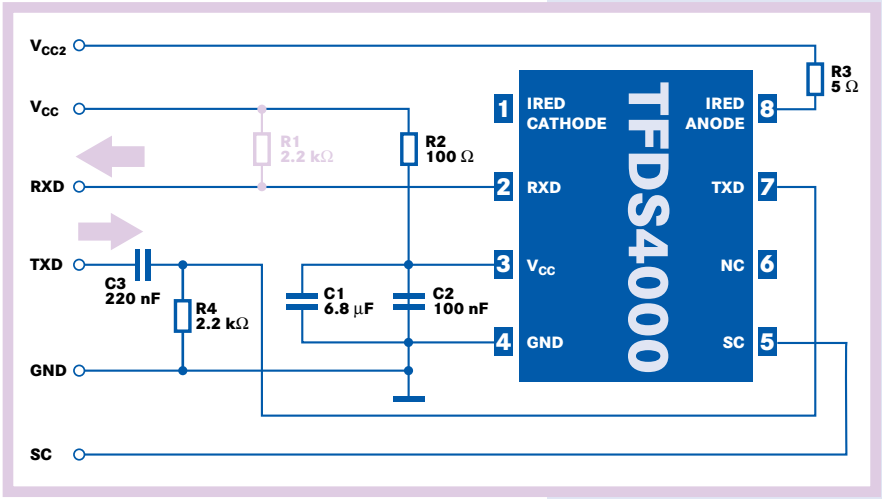
FEATURES

- Compatible to IrDA standard
- SMD side view
- Low profile (height: 5.6 mm max.)
- Low power consumption
- Very few external components
- Wide supply voltage range: 2.7 V to 5.5 V
- Microcomputer-compatible
- Sharp ASK mode (5 V supply voltage)
- AGC for EMI immunity
- Open-collector IRED driver
- Output Pin 8 connectable to an unregulated power supply by an external resistor
- Efficient serial drive capability for additional IREDs

APPLICATIONS

- Personal computer, printer
- Personal digital assistant
- Handy terminal
- Cellular phone, pager

APPLICATION CIRCUIT



BASIC CHARACTERISTICS

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT	REMARK
Supply voltage range	V_{cc}		-0.5		6.0	V	
Voltage range of IRED drive output		pin 8, Txd "LOW"	-0.5		6.0	V	
Input currents					10	mA	all pins
Output sinking current					25	mA	
Power dissipation	P_{tot}				200	mW	
Junction temperature	T_J				125	°C	
Ambient temperature range (operating)	T_{amb}		0		70	°C	
Storage temperature range	T_{stg}		-25		85	°C	
Soldering temperature		t = 20 s at 215°C		215	230	°C	see IRDA Design Guide
Average IRED current	I_{IRED}(DC)				100	mA	
Rep. pulsed IRED current	I_{IRED}(RP)				500	mA	< 90 µs, t_{on}< 20%
Peak IRED current	I_{IRED}(PK)				1	A	< 2 µs, t_{on}< 10%
IRED anode voltage	I_{IREDA}		-0.5		V_{cc}+0.5	V	
Transmitter data input voltage	V_{Txd}		-0.5		V_{cc}+0.5	V	
Receiver data input voltage	V_{Rxd}		-0.5		V_{cc}+0.5	V	

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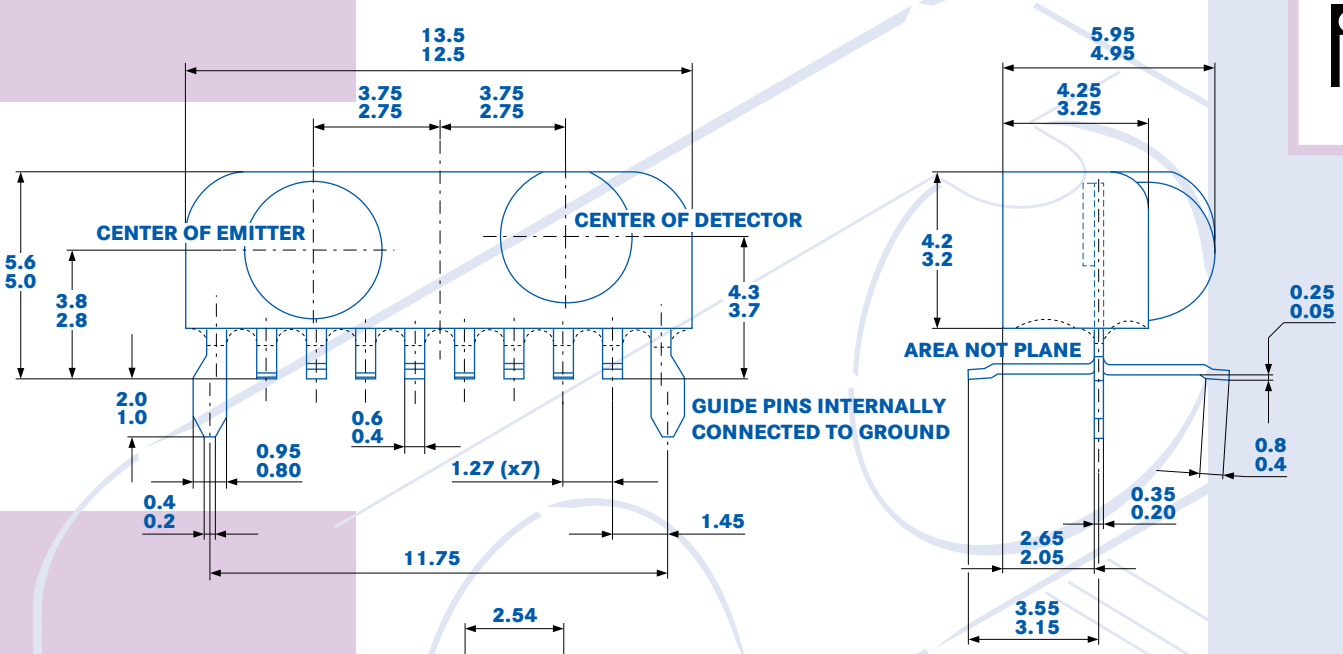
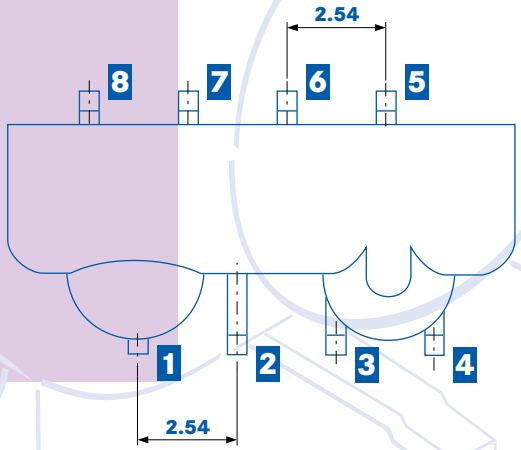
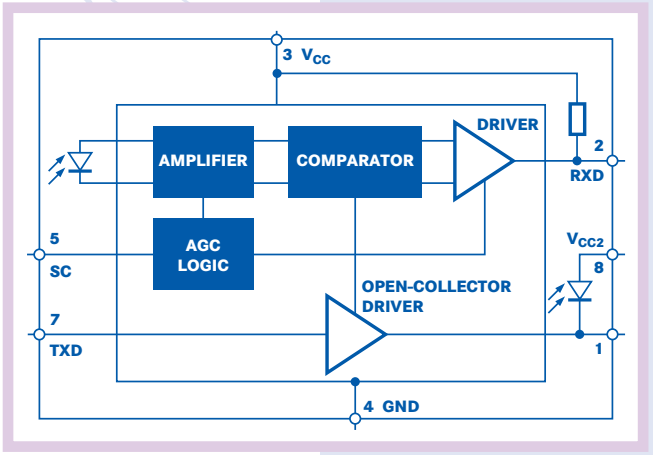
MEMBER IrDA
Infrared Data Association SM

DIMENSIONS





BLOCK DIAGRAM



PIN ASSIGNMENT

PIN#	PIN NAME	DESCRIPTION	I/O	ACTIVE
1	IRED cathode	Internally connected to driver transistor		
2	Rxd	Received data	O	Low
3	V_{CC}	Supply voltage		
4	GND	Ground		
5	SC	Sensitivity control	I	High
6	NC			
7	Txd	Transmit data	I	High
8	IRED anode	IRED anode		
-	Two guide pins	Internally connected to ground		

TEMIC Semiconductors

Europe/Germany
Tel.: 49 7131 672831
Fax: 49 7131 672423

USA
Tel.: 001 408 567 8276
Fax: 001 408 567 8959

Asia Pacific/Singapore
Tel.: 65 788 6668
Fax: 65 788 0988

Japan
Tel.: 81 3 55 62 3321
Fax: 81 3 55 62 3316

World Wide Web server: www.temic.de

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