

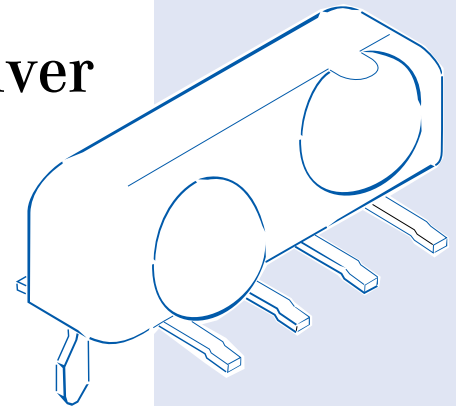
TFDS3000

TEMIC
Semiconductors

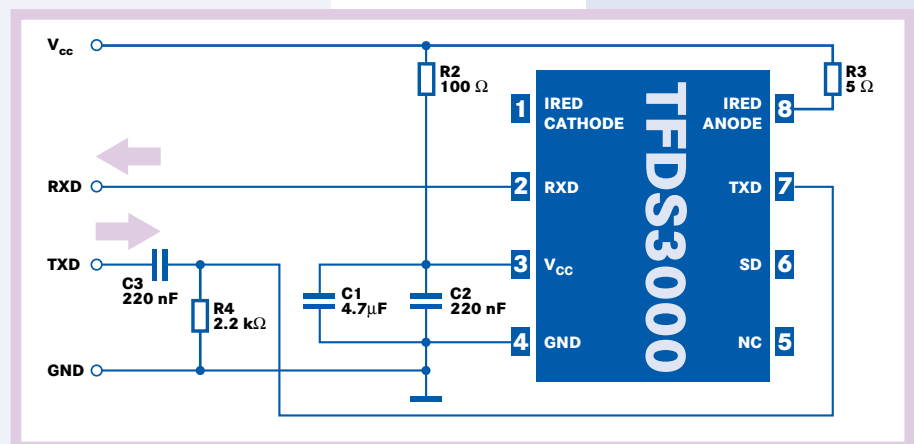
115 kb/s IrDA SIR Integrated Transceiver

FEATURES

- Compatible to IrDA standard
- SMD side view
- Low profile (height: 5.6 mm max.)
- Low power consumption
- Only one external component
- Power supply: 3.0 V to 5.5 V
- Microcomputer compatible



APPLICATION CIRCUIT



APPLICATIONS

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

BASIC CHARACTERISTICS

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Supply voltage	V_{CC}		3.0		5.5	V
Operating temperature range	T_A		0		70	$^{\circ}\text{C}$
Current consumption	I_S			1.3	2.5	mA
Supported data rates					115.2	kb/s
Peak wavelength of emission	λ_p		850		900	nm
Halfwidth of emission spectrum				60		nm
Transmitter radiant intensity, within 30° cone	I_e	$V_{CC}=5.0\text{ V}$ $R_S=10\ \Omega$		60	200	mW/sr
Transmitter, angle of half intensity	α			+/-24		$^{\circ}$
Transmitter input voltage, low	V_{IL}		0		0.8	V
Transmitter input voltage, high	V_{IH}	$V_{CC}=5.0\text{ V}$	2.4		V_{CC}	
Optical output rise/fall time	t_r/t_f			200	600	ns
Receiver detection threshold $\alpha=+/-15^{\circ}$	E_{emin}	BER=10 ⁻⁸		25	35	mW/m ²
Receiver output voltage, low	V_{OL}	C=15 pF,		0.5	0.8	V
Receiver output voltage, high	V_{OH}	R=2.2 k Ω	$V_{CC}-0.5$			
Receiver output rise/fall time	t_r/t_f	C=15 pF, R=2.2 k Ω	20		200	ns
Receiver output pulse width		2.4 kb/s	1		20	μs
		115.2 kb/s	1		8	

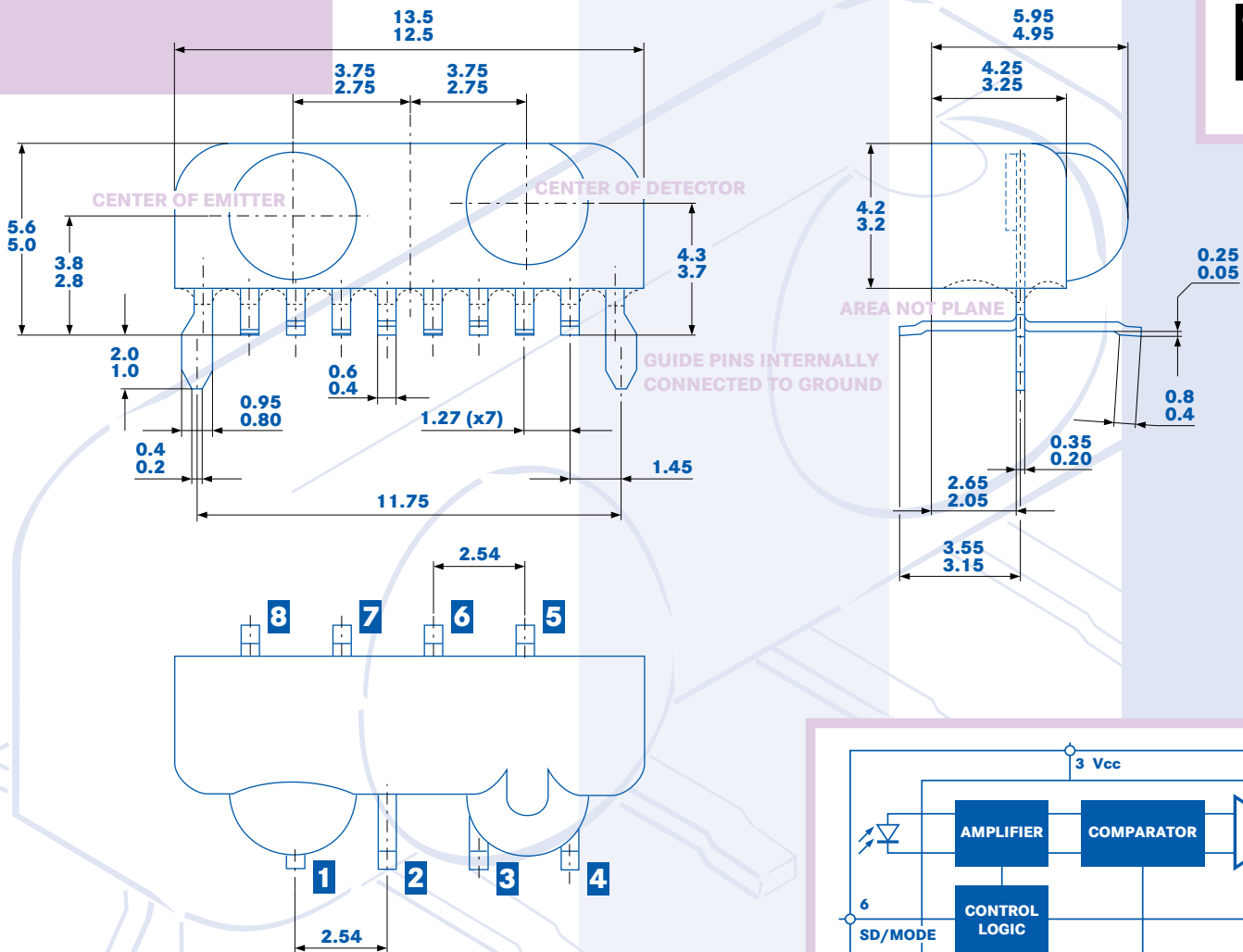
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MEMBER
IrDA

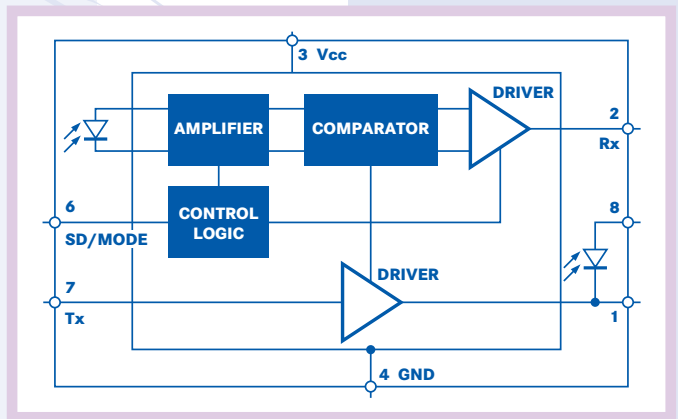


DIMENSIONS



PIN ASSIGNMENT

PIN#	PIN NAME	DESCRIPTION	I/O	ACTIVE
1	IREd cathode	Internally connected to driver transistor		
2	Rxd (output)	Received data	O	Low
3	V _{CC}	Supply voltage		
4	GND	Ground		
5	NC	No connection		
6	SD	Analog IC shutdown, not for new development	I	
7	Txd	Data to be transmitted	I	High
8	IREd	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