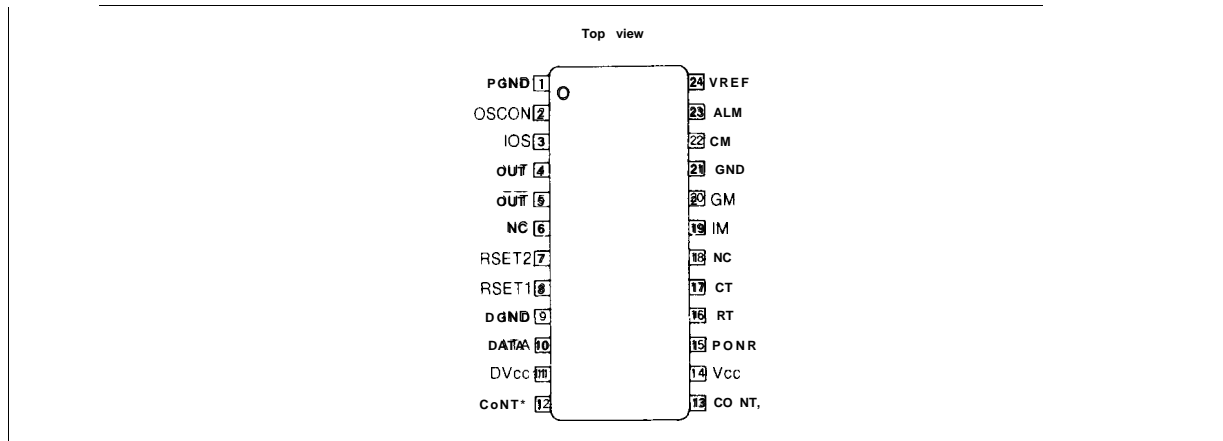


# IR3C08



## Pin Assignment

Pin No.	Symbol	Function	Pin No.	symbol	Function
1	PGND	Power	13	CoNT <sub>1</sub>	Control 1
2	OSCON	Transistor base (offset)	14	Vcc	Power supply (+5V)
3	IOS	Transistor emitter (offset)	15	PONR	Power on reset
4	OUT	Drive output	16	RT	OSC resistor
5	OUT	Invert drive output	17	CT	OSC capacitor
6	NC	NC	18	NC	NC
7	RSET2	IF2 set resistor (fine tuning)	19	IM	Photo monitor input
8	RSET1	IF1 set resistor (coarse tuning)	20	GM	Photo monitor GND
9	DGND	Data GND	21	GND	GND
10	DATA	Data input	22	CM	Comparator output
11	DVcc	Data Vcc	23	ALM	Alarm output
12	CoNT <sub>2</sub>	Control 2	24	VREF	Reference voltage (offset)

## Absolute Maximum Ratings

(Ta = 25°C)

Parameter	Symbol	Conditions	Rating	Unit
Supply voltage	DVcc		Vcc ± 0.3	V
	Vcc		7	V
Input voltage range			-0.2 to Vcc + 0.2	V
Output current IF <sub>1</sub>	IF1		140	mA
Output current IF <sub>2</sub>	IF2		60	mA
Output current Ios	Ios		30	mA
Resistor RT minimum value	RT		1	kΩ
Alarm maximum output current	I <sub>ALM</sub>		10	mA
Power dissipation	P <sub>D</sub>	Ta ≤ 25°C	1100	mW
Power dissipation derating ratio		Ta > 25°C	10	mW/°C
Operating temperature	T <sub>opr</sub>		0 to 70	°C
Storage temperature	T <sub>stg</sub>		-55 to 150	°C

## Electrical Characteristics

(Ta=Topr, AVcc=DVcc=4.75~5.25V)

Parameter	Symbol	Conditions	MIN	TYP	MAX	Unit
Supply voltage range	DVcc	Terminals 11, 14 Operating supply voltage	4.75	5.00	5.25	V
	Vcc					
Current dissipation	Icc	Except RSET1, RSET2, Ios currents, and Iout, Iout	25	33	45	mA
Fullscale output current	IFS1	IF1 full-scale current, RSET1=200Ω	90	100	110	mA
	IFS2	IF2 full-scale current, RSET2=200Ω	45	50	57	mA
Output terminal voltage compliance		Iout, Iout, Vcc-V4, Vcc-V5		.	2.4	V
Offset current	Ios	RE=62Ω, Ta=25°C	7	9	12	mA
RSET1 terminal full-scale	FSR1	Vcc-V8, RSET1=200Ω	0.91	0.98	1.05	V
RSET2 terminal full-scale	FSR2	Vcc-V7, RSET2=200Ω	0.91	0.98	1.05	V
VREF terminal voltage	VREF	Ta=25°C Flow out current= 1 mA	1.18	1.25	1.32	V
CM terminal output voltage	H	VCMH Iout=-1 mA	2.4			V
	L	VCML Iout=4mA			0.4	V
Data input voltage Data input	H	VDH Ta=25°C	2.0		Vcc	V
	L	VDL Ta=25°C	0	—	0.8	V
Datainput current	H	IDH VDH=VCC		0.40	1	mA
	L	IDL VDL=GND		-0.40	-1	mA
Maximum switching frequency	fDmx	Terminal 10 data input	20			MHz
Source oscillation frequency range	fo				1	MHz
Internal clock frequency	fCLK			fo/2		Hz
Control input voltage	H	VCH CONT1, 2 (Terminals 13, 12)	2.0		Vcc	V
	L	VCL CONT1, 2 (Terminals 13, 12)	0	—	0.8	V
Control input current	H	ICH1 Input voltage 2V, CONT1 current		-105	-250	μA
	L	ICH2 Input voltage 0.8V, CONT2 current		210	300	μA
	H	ICL1 Input voltage 0.8V, CONT1 current		-350	-700	μA
	L	ICL2 Input voltage 0.8V CONT2 current		70	110	μA
Control input reset time	RMIN	Minimum reset time at CONT1 "H", CONT2 "L"		50	300	ns
Alarm operation count	AL1	Count on counter 1	—	252	—	count
	AL2	Count on counter 2	—	252	—	count

(Note) Positive current is defined as current flowing in