



F6406/G

LINEAR INTEGRATED CIRCUIT

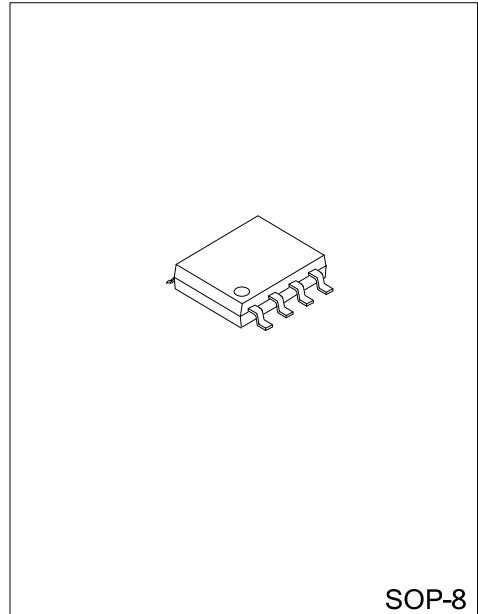
2-PHASE DC-FAN MOTOR PRE-DRIVER IC

DESCRIPTION

The UTC **F6406/G** is a 2-phase pre-driver IC for dc-fan motors, providing the functions of motor lock protection, auto-restart, and rotation detection signal output. UTC **F6406** is with RD option and UTC **F6406G** with FG.

FEATURES

- * Wide supply voltage range of 2.5V to 30V
- * Lock protection
- * Auto-restart when the motor lock is undone
- * RD(latch-type lockup detection) output (F6406)
- * FG(frequency generator) output (F6406G)



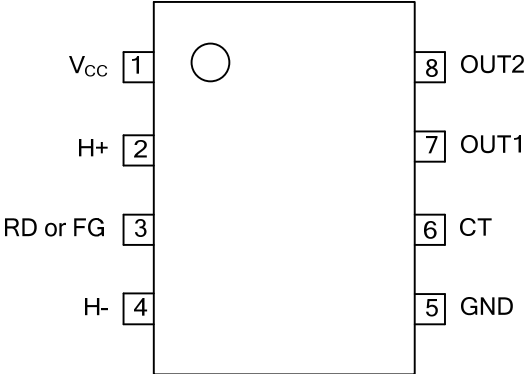
Lead-free: F6406L/F6406P
 Halogen-free: F6406GL/F6406GP

ORDERING INFORMATION

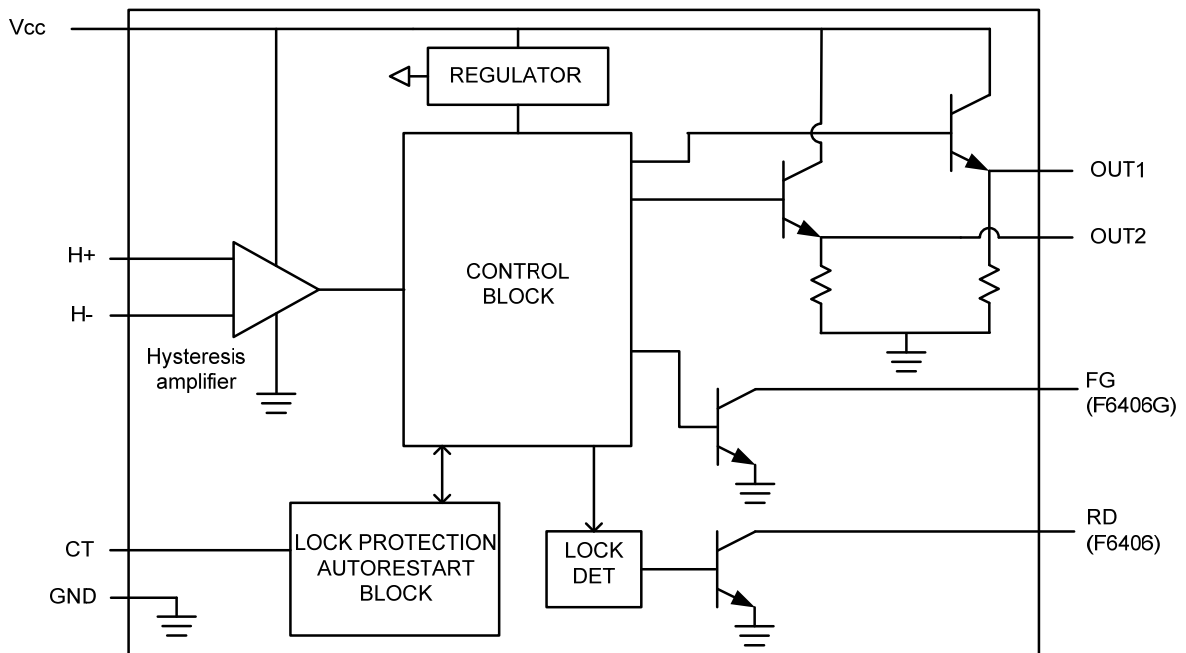
Ordering Number			Package	Packing
Normal	Lead Free	Halogen Free		
F6406-S08-R	F6406L-S08-R	F6406P-S08-R	SOP-8	Tape Reel
F6406G-S08-R	F6406GL-S08-R	F6406GP-S08-R	SOP-8	Tape Reel

<p>F6406L-S08-R</p> <p>(1)Packing Type (2)Package Type (3)Lead Plating</p>	<p>(1) R: Tape Reel (2) S08: SOP-8 (3) P: Halogen Free, L: Lead Free, Blank: Pb/Sn</p>
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■ PIN CONFIGURATION



■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

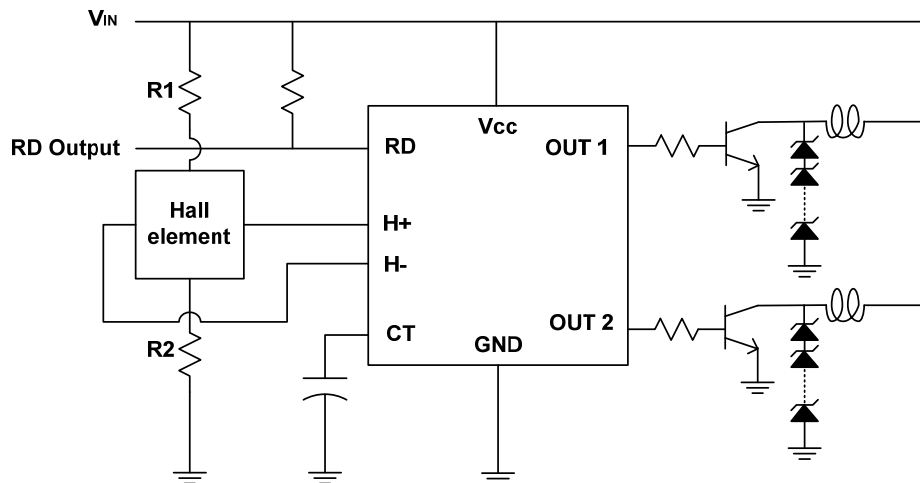
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V _{CC}	2.5V ~ 30V	V
Hall Input Common Mode Voltage Range	V _{HIC}	1.0 ~ V _{CC} -0.5	V
Circuit Current	I _{OUT}	80	mA
Power Dissipation	P _D	700	mW
Operating Ambient Temperature	T _{OPR}	-20 ~ +85	°C
Storage Temperature	T _{STG}	-55 ~ +150	°C

Note Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS (Ta=25°C, V_{CC}=12V)

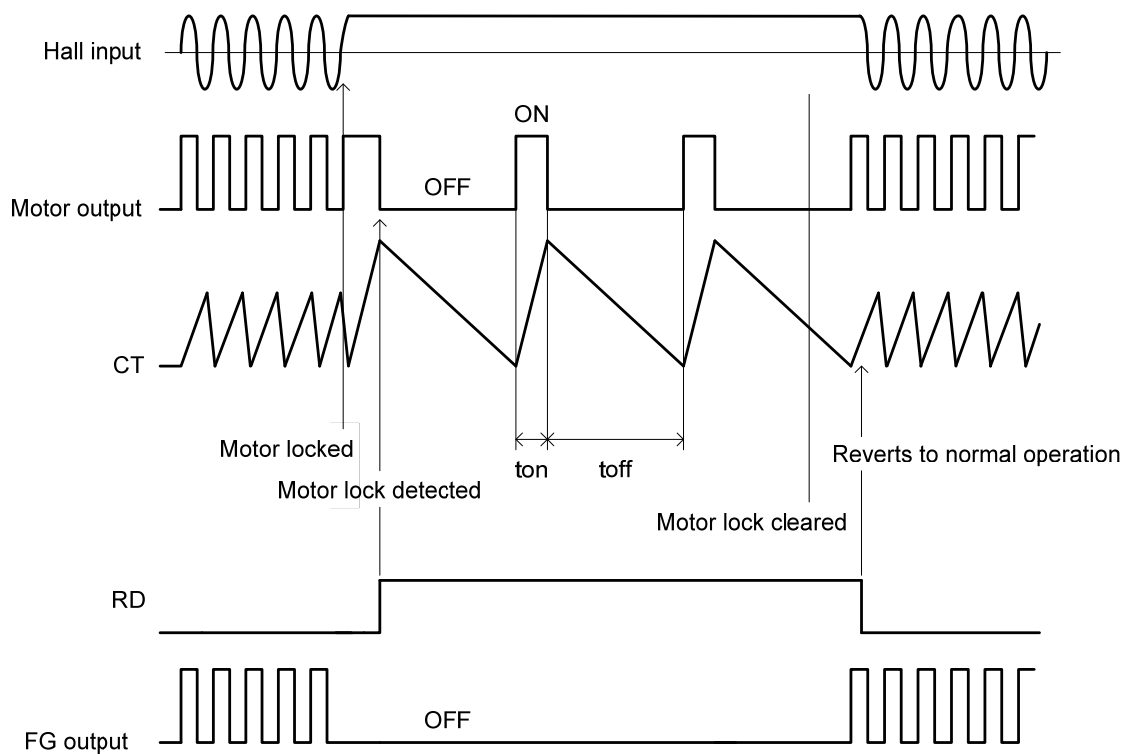
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
Current Drain	I _{CC}	In drive mode	CT=L		3.2	8.7	mA
			CT=H		3.2	5	mA
Lockup Detection Capacitor Charge Current	I _{CT1}	V _{CT} = 1.1V	2	3.45	5.25	μA	
Capacitor Discharge Current	I _{CT2}	V _{CT} = 1.1V	0.35	0.8	1.45	μA	
Charge/Discharge Ratio	R _{CT}	R _{CD} =I _{CT1} /I _{CT2}	3	4.5	8		
CT Charge Voltage	V _{CT1}		2.2	2.6	3	V	
CT Discharge Voltage	V _{CT2}		0.4	0.6	0.8	V	
Output High Level Voltage	V _{OL}	I _{OUT} = 10 mA	10	10.5		V	
Hall Input Sensitivity	V _{Hin}	Zero peak value (including offset and hysteresis)	3		15	mV	
RD Output Pin Low Voltage (F6406)	V _{RDL}	I _{RD} =5mA		0.1	0.3	V	
RD Current Capacity (F6406)	I _{RD}	V _{RDL} =2V	20			mA	
FG Low Voltage (F6406G)	V _{FGL}	I _{FG} =5mA		0.1	0.3	V	
FG Driver Capacity (F6406G)	I _{FG}	V _{FGL} =2V	20			mA	
FG Leakage Current (F6406G)	I _{FGL}	V _{FGL} =15V			50	μA	

■ TYPICAL APPLICATION CIRCUIT(F6406)



*Same value of hall bias resistors is selected for R1 and R2

■ LOCKUP PROTECTION / AUTOMATIC RECOVERY



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