



F6406/G

LINEAR INTEGRATED CIRCUIT

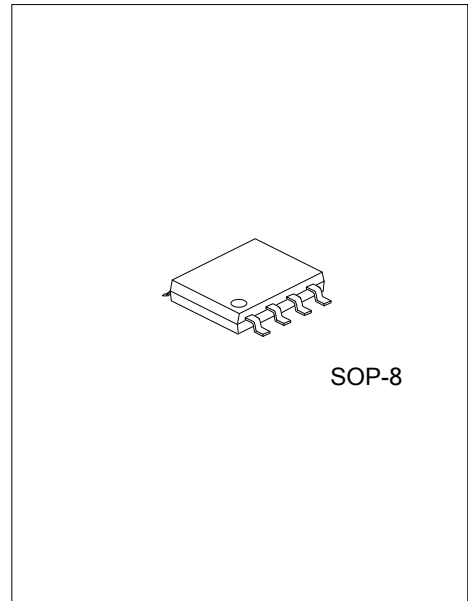
2-PHASE DC-FAN MOTOR PRE-DRIVER IC

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)



ORDERING INFORMATION

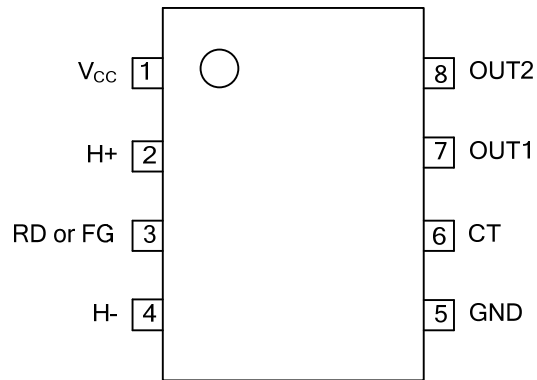
Ordering Number	Package	Packing
F6406P-S08-R	SOP-8	Tape Reel
F6406GP-S08-R	SOP-8	Tape Reel

<p>F6406P-S08-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) S08: SOP-8 (3) P: Halogen Free and Lead Free
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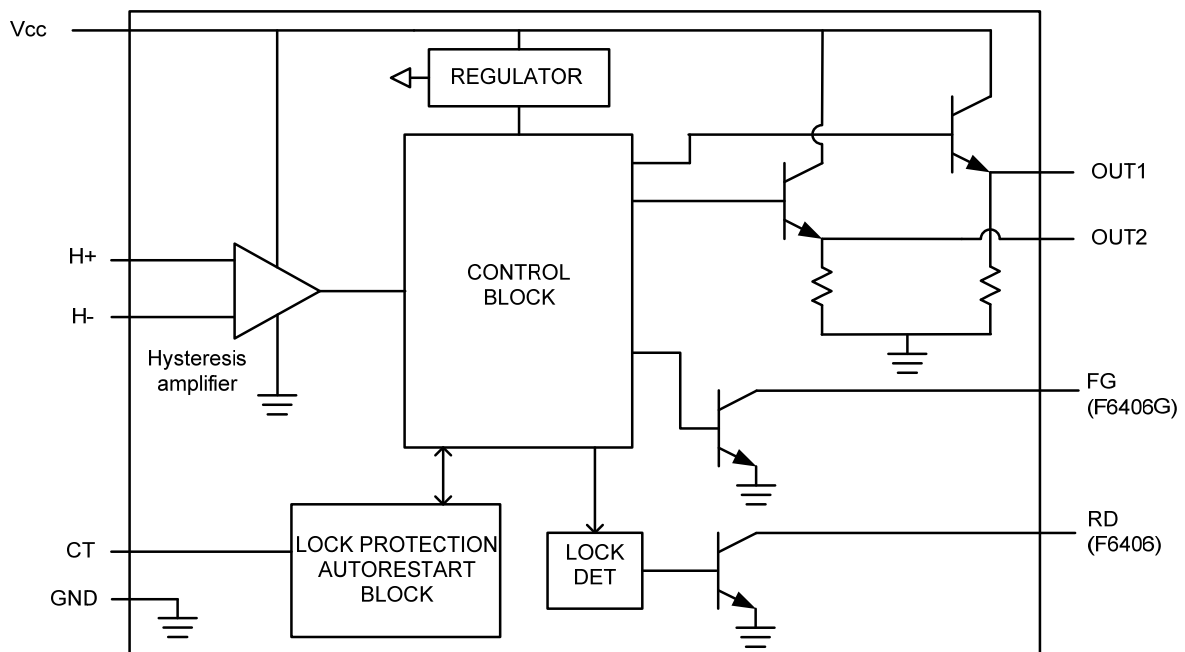
MARKING

F6406P	F6406GP
<p>8 7 6 5 → Date Code</p> <p>UTC □□□□</p> <p>F6406P</p> <p>□□ → Lot Code</p> <p>1 2 3 4</p>	<p>8 7 6 5 → Date Code</p> <p>UTC □□□□</p> <p>F6406GP</p> <p>□□ → Lot Code</p> <p>1 2 3 4</p>

■ PIN CONFIGURATION



■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$, unless otherwise specified)

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	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ\text{C}$

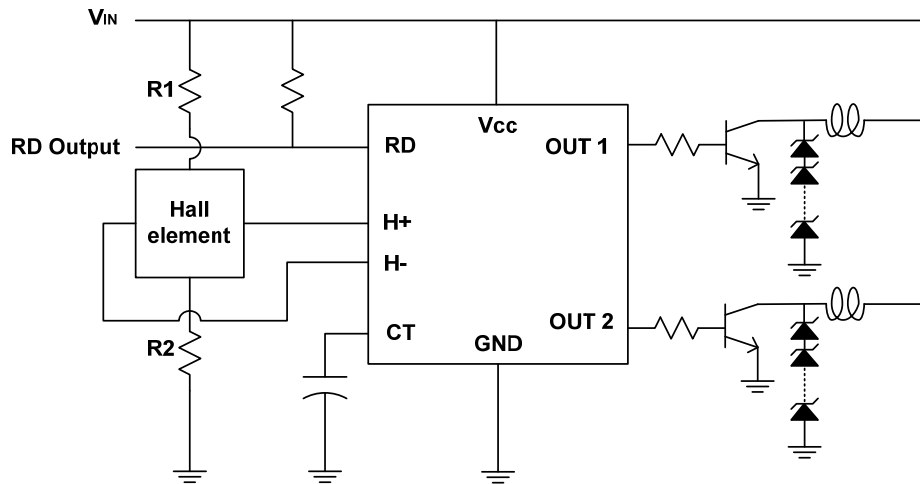
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($V_{CC}=12\text{V}$, $T_A=25^\circ\text{C}$, unless otherwise specified)

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}	$V_{CT}=1.1\text{V}$	2	3.45	5.25	μA
Capacitor Discharge Current	I_{CT2}	$V_{CT}=1.1\text{V}$	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}	$I_{OUT}=10\text{mA}$	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}	$I_{RD}=5\text{mA}$		0.1	0.3	V
RD Current Capacity (F6406)	I_{RD}	$V_{RDL}=2\text{V}$	20			mA
FG Low Voltage (F6406G)	V_{FGL}	$I_{FG}=5\text{mA}$		0.1	0.3	V
FG Driver Capacity (F6406G)	I_{FG}	$V_{FGL}=2\text{V}$	20			mA
FG Leakage Current (F6406G)	I_{FGL}	$V_{FGL}=15\text{V}$			50	μA

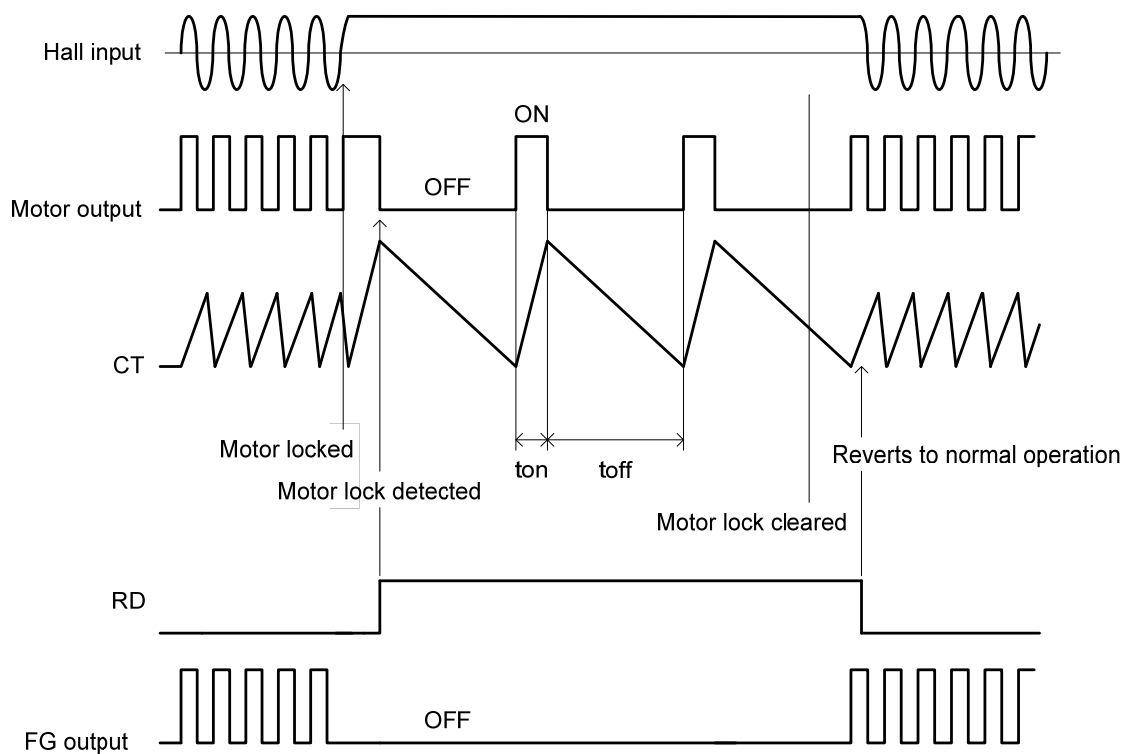
■ TYPICAL APPLICATION CIRCUIT

F6406



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

■ LOCKUP PROTECTION / AUTOMATIC RECOVERY



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