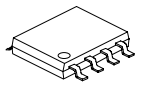
SK6406/G

LINEAR INTEGRATED CIRCUIT

2-PHASE DC-FAN MOTOR PRE-DRIVER IC



SOP-8

*Pb-free plating product number: SK6406L/SK6406GL

■ DESCRIPTION

SK6406 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. SK6406 is with RD option and SK6406G 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 (SK6406)
* FG(frequency generator) output (SK6406G)

■ APPLICATION

* Dual Coil DC FAN Motor

■ ORDERING INFORMATION

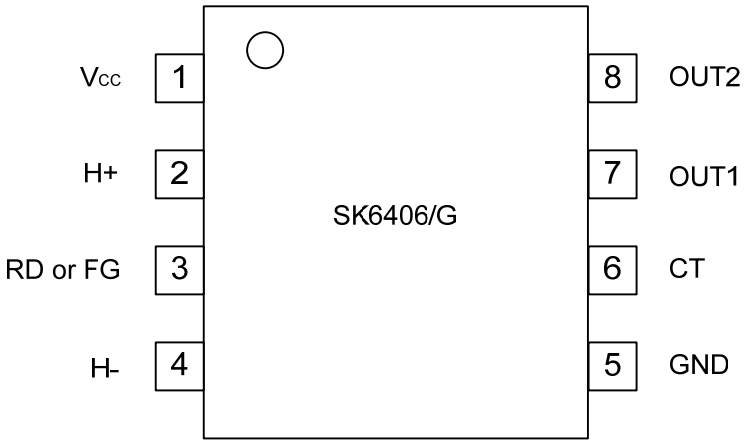
Order Number		Package	Packing
Normal	Lead Free Plating		
SK6406-S08-R	SK6406L-S08-R	SOP-8	Tape Reel
SK6406-S08-T	SK6406L-S08-T	SOP-8	Tube
SK6406G-S08-R	SK6406GL-S08-R	SOP-8	Tape Reel
SK6406G-S08-T	SK6406GL-S08-T	SOP-8	Tube

SK6406L-S08-R

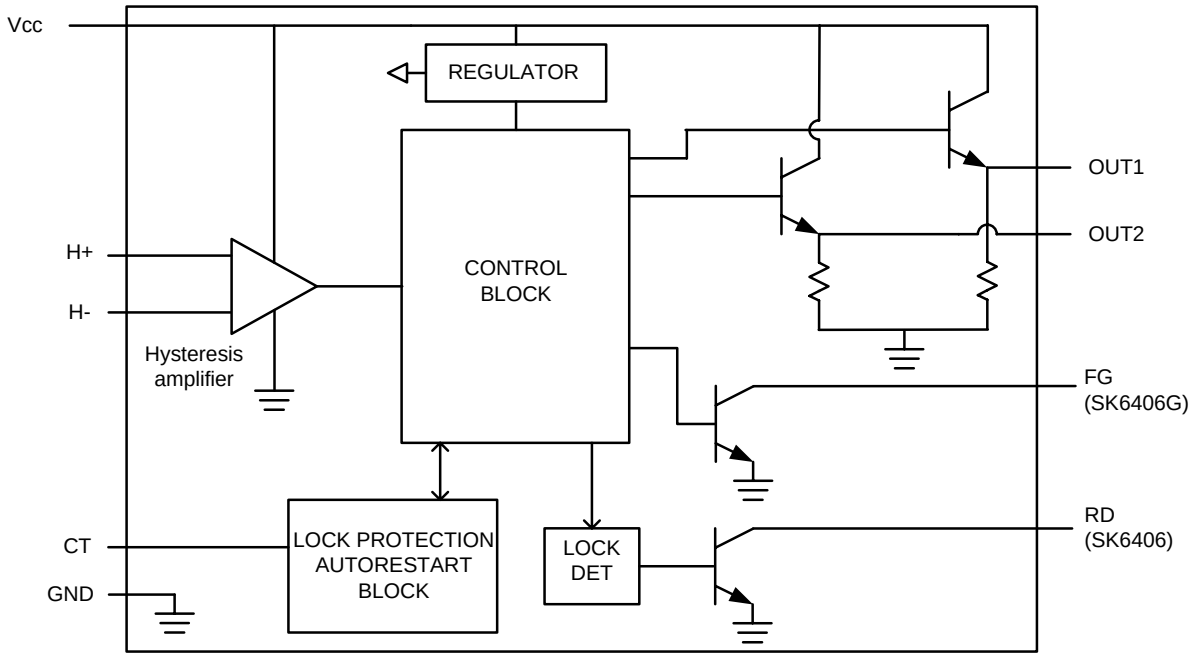
(1)Packing Type
(2)Package Type
(3)Lead Plating

(1) R: Tape Reel, T: Tube
(2) S08: SOP-8
(3) L: Lead Free Plating, Blank: Pb/Sn

■ PIN CONFIGURATION



■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (Ta = 25℃)

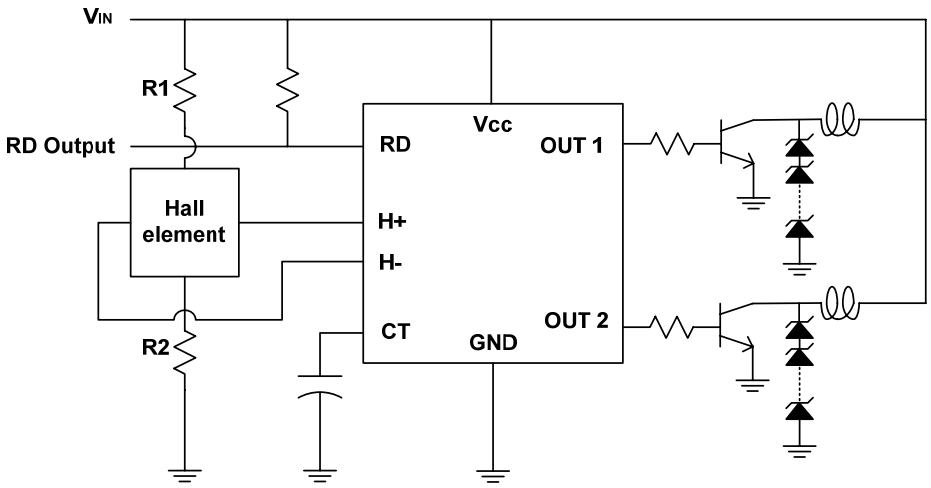
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	2.5V ~ 30V	V
Hall Input Common Mode Voltage Range	V_{HIC}	1.0 ~ Vcc-0.5	V
Circuit Current	I_{OUT}	80	mA
Power Dissipation	P_D	700	mW
Operating Ambient Temperature	T_{OPR}	-20 ~ +85	℃
Storage Temperature	T_{STG}	-55 ~ +150	℃

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℃, 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	uA
Capacitor Discharge Current	I_{CT2}	V_{CT}= 1.1V		0.35	0.8	1.45	uA
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	VHin	Zero peak value (including offset and hysteresis)		3		15	mV
RD Output Pin Low Voltage (SK6406)	V_{RDL}	I_{RD}=5mA			0.1	0.3	V
RD Current Capacity (SK6406)	I_{RD}	V_{RDL}=2V		20			mA
FG Low Voltage (SK6406G)	V_{FGL}	I_{FG}=5mA			0.1	0.3	V
FG Driver Capacity (SK6406G)	I_{FG}	V_{FGL}=2V		20			mA
FG Leakage Current (SK6406G)	I_{FGL}	V_{FGL}=15V				50	uA

■ TYPICAL APPLICATION CIRCUIT(SK6406)



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

■ LOCKUP PROTECTION / AUTOMATIC RECOVERY