

UTC UNISONIC TECHNOLOGIES CO., LTD

SK6908

LINEAR INTEGRATED CIRCUIT

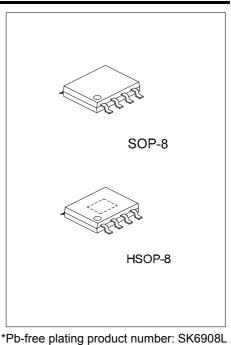
SINGLE-PHASE DC-FAN MOTOR DRIVER

DESCRIPTION

SK6908 is a single-phase driver for dc-fan motors. It provides high efficiency, low noise output and supports the functions of motor lock protection, auto restart and rotation detection.

FEATURES

- *Wide supply voltage range of 2.5V to 20V
- *Output current I_{O(MAX)}=600mA
- *Operate with Hall element
- *Lock protection
- *Auto-restart when the motor lock is undone
- *FG(frequency generator) output
- *Package type SOP-8 and HSOP-8 expose



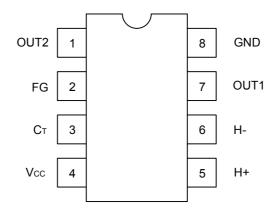
ORDERING INFORMATION

Ordering Number		Deekege	Deaking	
Normal	Lead Free Plating	Package	Packing	
SK6908-S08-R	SK6908L-S08-R	SOP-8	Tape Reel	
SK6908-S08-T	SK6908L-S08-T	SOP-8	Tube	
SK6908-SH2-R	SK6908L-SH2-R	HSOP-8	Tape Reel	
SK6908-SH2-T	SK6908L-SH2-T	HSOP-8	Tube	

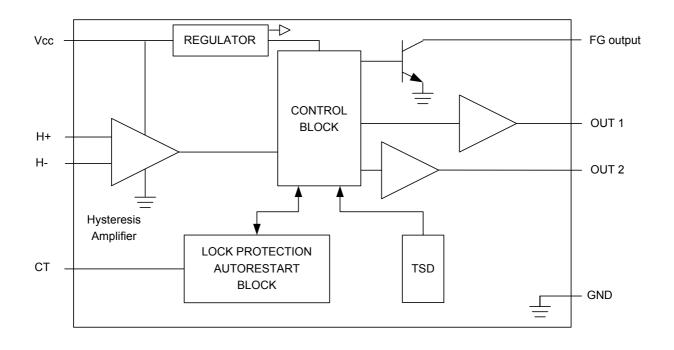
SK6908 <u>L-S08</u> - <u>R</u>		
	- (1)Packing Type	(1) R: Tape Reel, T: Tube
	- (2)Package Type	(2) S08: SOP-8, SH2: HSOP-8
	- (3)Lead Plating	(3) L: Lead Free Plating, Blank: Pb/Sn

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■ PIN CONFIGURATION



BLOCK DIAGRAM





■ ABSOLUTE MAXIMUM RATINGS (Ta = 25)

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		Vcc	20	V
Supply Current		I _{CC}	20	mA
Circuit Current		lo	600	mA
FG Output Current		I _{FG}	20	mA
Power Dissipation	SOP-8	Б	700	mW
(Derate at Ta=25 reduce 5.5mW/)	HSOP-8	PD	1000	mW
Output Voltage		V _{OUT}	20	V
Hall Input Common Mode Voltage Range		V _{HIC}	1.0 ~ Vcc-0.5	
Operating Temperature		T _{OPR}	-20 ~ +100(Note1)	
Storage Temperature		T _{STG}	-55 ~ +150	

Note 1.For operation in ambient temperatures above 25 , the driver device must be derated based on a 150 maximum temperature

Note 2.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.

Note 3.The device is guaranteed to meet performance specification within 0 ~+70 operating temperature range and assured by design from -20 ~+100

SYMBO PARAMETER CONDITIONS MIN TYP MAX UNIT L In drive mod<u>e (C_T=L)</u> 8 mΑ Current Drain I_{CC} In lockup protection mode (C_T=H) 4.1 mΑ Lockup Detection Capacitor Charge Current V 1PIN = 1.1V 2.8 I_{CT1} 2 4 uA 0.8 Capacitor Discharge Current I_{CT2} V 1PIN = 1.1V 0.3 0.5 uA Capacitor Charge/Discharge Current Ratio R_{CT} 5.6 V CT charge Voltage 1.9 V_{CT1} CT Discharge Voltage V_{CT2} 0.7 V Output Low Level Voltage V_{OL} I₀=200mA 0.3 0.7 V 3.9 V Output High Level Voltage Voh I₀=200mA 4.1 Zero peak value $\mathsf{V}_{\mathsf{HIN}}$ 3 15 mV Hall Input Sensitivity (including offset and hysteresis) 680 Hall Input-Output Gain G_{HO} 320 500 V_{FG} FG Output Pin Low Voltage I_{FG}=5mA 0.5 V 0.3 I_{FG(LEAK)} V_{FG}=15V FG Output Pin Leakage Current 0 10 uA

■ ELECTRICAL CHARACTERISTICS (Ta=25 , V_{CC}=5V)

■ HALL SINGLE INPUT-OUTPUT TRUTH VALUE TABLE

H+	H-	OUT1	OUT2	FG
Н	L	Н	L	Н
L	Н	L	Н	L

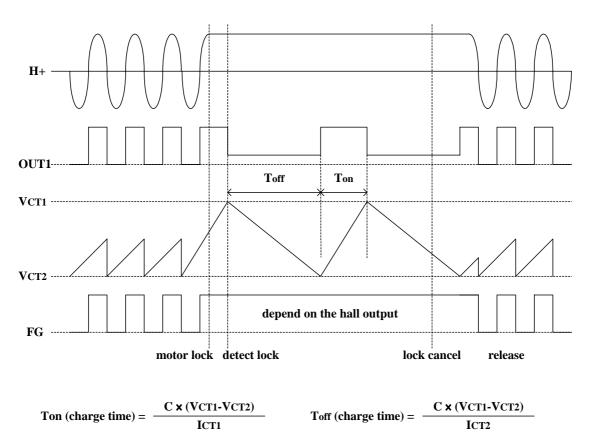
* CT=0V



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■ LOCKUP PROTECTION / AUTOMATIC RECOVERY

Fig. 1



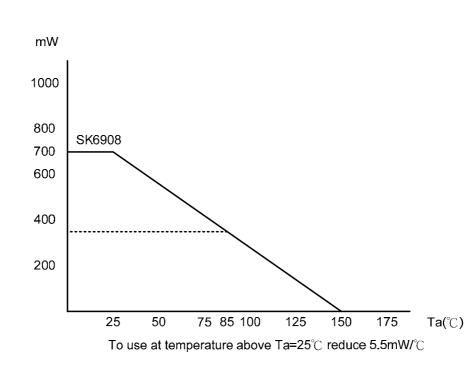
C : Value of capcitor at CT terminal



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Fig.-2

POWER DISSIPATION



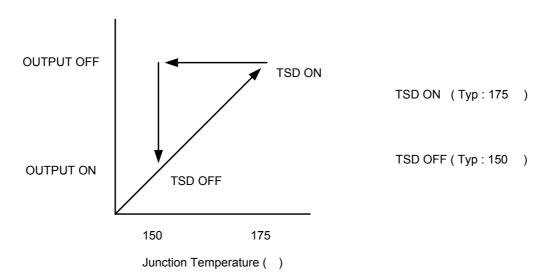
The maximum junctions temperature is 150°C in plastic packages, but for reasons of reliability, a lower number may be mandated.

 $P_T = T_{J(MAX)} - Ta_{(MAX)} / \theta_{JA}$

 $\begin{array}{l} \mathsf{P}_{\mathsf{T}} = \mathsf{Total} \; \mathsf{Power} \; \mathsf{Dissipated} \; \mathsf{by} \; \mathsf{the} \; \mathsf{Device} \\ \mathsf{T}_{\mathsf{J}\;(\mathsf{MAX})} = \mathsf{Maximum} \; \mathsf{Junction} \; \mathsf{Temperature} \\ \mathsf{Ta}_{(\mathsf{MAX})} = \mathsf{Maximum} \; \mathsf{Ambient} \; \mathsf{Temperature} \\ \theta_{\mathsf{JA}} = 175^\circ C/W \end{array}$

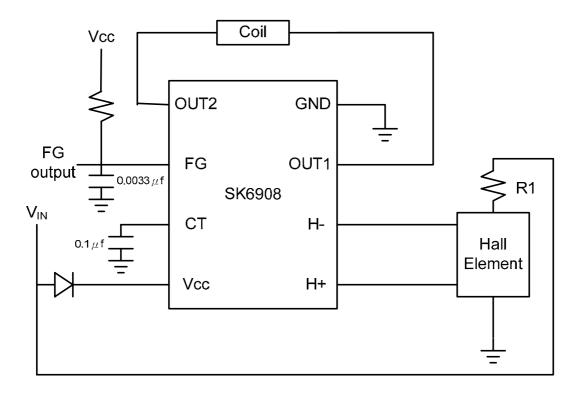
■ THERMAL SHUTDOWN (TSD)







TYPICAL APPLICATION CIRCUIT



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