



# A6043

## LINEAR INTEGRATED CIRCUIT

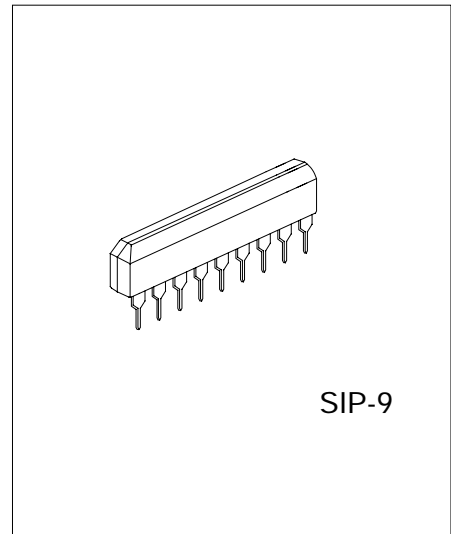
### FM STEREO MULTIPLEX

#### DESCRIPTION

The UTC **A6043** is Phase Locked Loop(PLL) FM stereo multiplex IC. It is suitable for automotive applications and portable radio applications.

#### FEATURES

- \* Low and wide operation:  $V_{CC} = 3V \sim 12V$
- \* High pilot lamp ON sensitivity:  $V_{L(ON)} = 9mV_{rms}$  (Typ.)
- \* Suitable for LED driving:  $I_{LAMP} = 20mA$  (Max.)
- \* Recommendable input voltage range:  $V_{IN} = 200 \sim 700mV_{rms}$
- \* Low distortion: THD = 0.08% (Typ.) at  $V_{IN} = 200mV_{rms}$ (Stereo)
- \* VCO stop capability stereo lamp and turn off are simultaneously operated by connect pin 7 to  $V_{CC}$ .
- \* Easy adjustment (The monitored free running frequency of VCO is 38kHz at pin 6.)

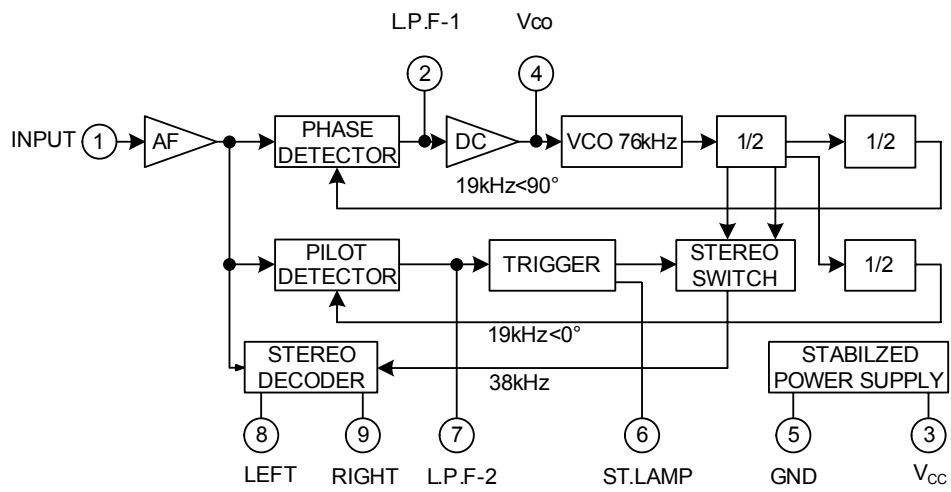


\*Pb-free plating product number: A6043L

#### ORDERING INFORMATION

Order Number		Package	Packing
Normal	Lead free		
A6043-G09-T	A6043L-G09-T	SIP-9	Tube

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (Ta = 25 )

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V <sub>CC</sub>	12	V
Lamp Voltage	V <sub>LAMP</sub>	16	V
Lamp Current	I <sub>LAMP</sub>	20	mA
Power Dissipation	P <sub>D</sub>	500	mW
Operating Temperature	T <sub>OPR</sub>	0 ~ +70	
Storage Temperature	T <sub>STG</sub>	-40 ~ +150	

■ ELECTRICAL CHARACTERISTICS

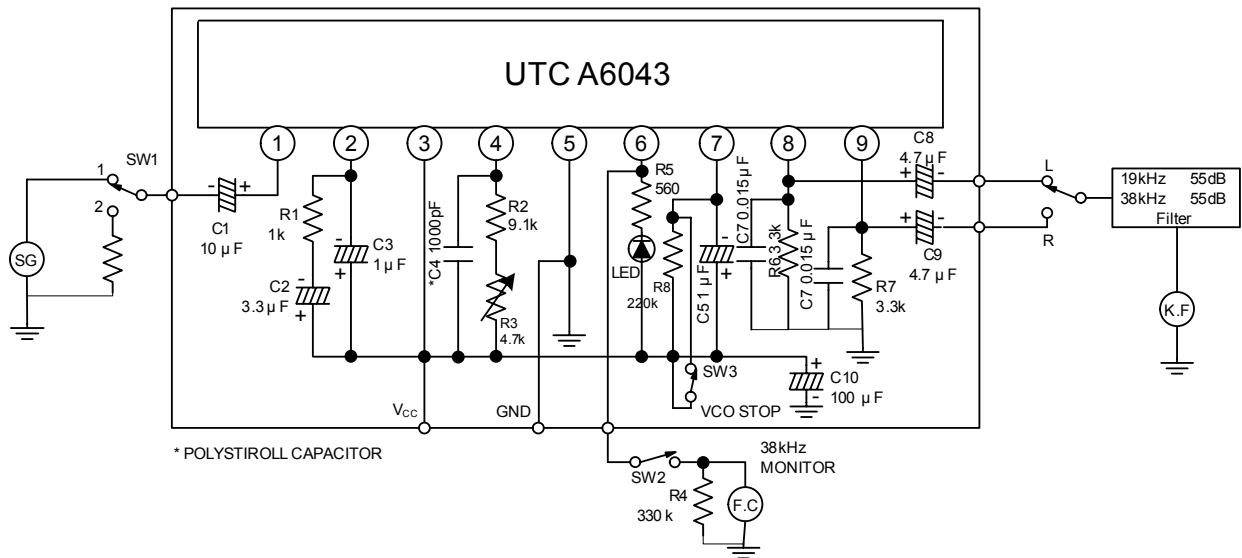
1. DC CHARACTERISTICS (Ta = 25 , V<sub>CC</sub>= 8V, terminal Voltage at No Signal.)

PIN NO.	PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
1	Composite Signal Input	Input		3.5		V
2	PLL Low-Pass Filter	LPF1		6.6		V
3	V <sub>CC</sub>	V <sub>CC</sub>		8.0		V
4	V <sub>CO</sub>	V <sub>CO</sub>		7.1		V
5	Ground	GND		0		V
6	Stereo Lamp	SLED				V
7	Pilot Detect Low-Pas Filter	LPF2		7.4		V
8	L-ch output	L-ch		4.0		V
9	R-ch output	R-ch		4.0		V

2. AC ELECTRICAL CHARACTERISTICS (Ta = 25 , V<sub>CC</sub>= 8V, f = 1kHz, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT	
Supply Current	I <sub>CC</sub>	at Lamp off		11	18	mA	
Maximum Input Voltage(Stereo)	V <sub>IN(MAX)</sub>	L+R = 90% , P = 10%		900		mV <sub>rms</sub>	
Channel Separation	CS	L+R = 180 mV <sub>rms</sub> , P = 20mV <sub>rms</sub>	36	45		dB	
Total Harmonic Distortion	Monaural	V <sub>IN</sub> = 200mV <sub>rms</sub> L+R = 180 mV <sub>rms</sub> , P = 20mV <sub>rms</sub>		0.08	0.3	%	
	Stereo			0.08		%	
Voltage Gain	G <sub>V</sub>	V <sub>IN</sub> = 200mV <sub>rms</sub>	-2.0	0.5	+2.0	dB	
Channel Balance	CB	V <sub>IN</sub> = 200mV <sub>rms</sub>		0	1.5	dB	
Lamp Sensitivity	ON	V <sub>L(ON)</sub> Pilot Input		9	15	mV <sub>rms</sub>	
	OFF		V <sub>L(OFF)</sub>	2	6	mV <sub>rms</sub>	
Stereo Lamp Hysteresis	V <sub>HYS</sub>	To Turn Off from Lamp Turn On		3		mV <sub>rms</sub>	
Capture Range	CR	P = 20mV <sub>rms</sub>		±3		%	
Carrier Leak	19kHz	CL	L+R = 180 mV <sub>rms</sub> , P = 20mV <sub>rms</sub>		34	dB	
	38kHz				42		
SCA Rejection Ratio	SCA Rej.	L+R = 160 mV <sub>rms</sub> , P = 20mV <sub>rms</sub> SCA = 20mV <sub>rms</sub> , f <sub>SCA</sub> = 67kHz		70		dB	
Signal to Noise Ratio	S/N	V <sub>IN</sub> = 200mV <sub>rms</sub> , f = 1kHz, R <sub>G</sub> = 620Ω		74		dB	
Input Resistance	R <sub>IN</sub>			33		kΩ	
Output Current (Pins 8, 9 )	I <sub>OUT</sub>	R <sub>L</sub> = 3.3kΩ	V <sub>CC</sub> = 3.5V		0.3	0.6	mA
			V <sub>CC</sub> = 8.0V		1.2	1.8	
			V <sub>CC</sub> = 12V		1.4	2.1	

## ■ TEST CIRCUIT



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