



A6043

LINEAR INTEGRATED CIRCUIT

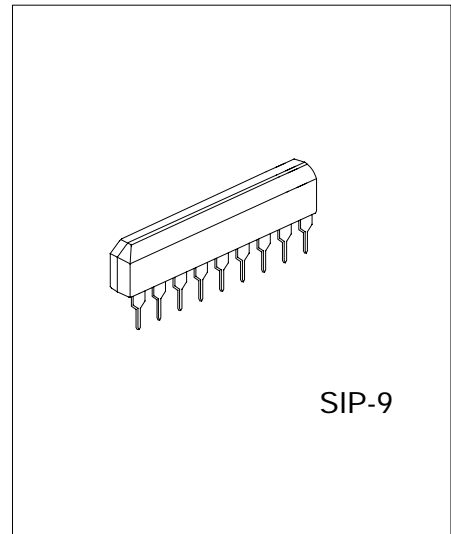
FM STEREO MULTIPLEX

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.)

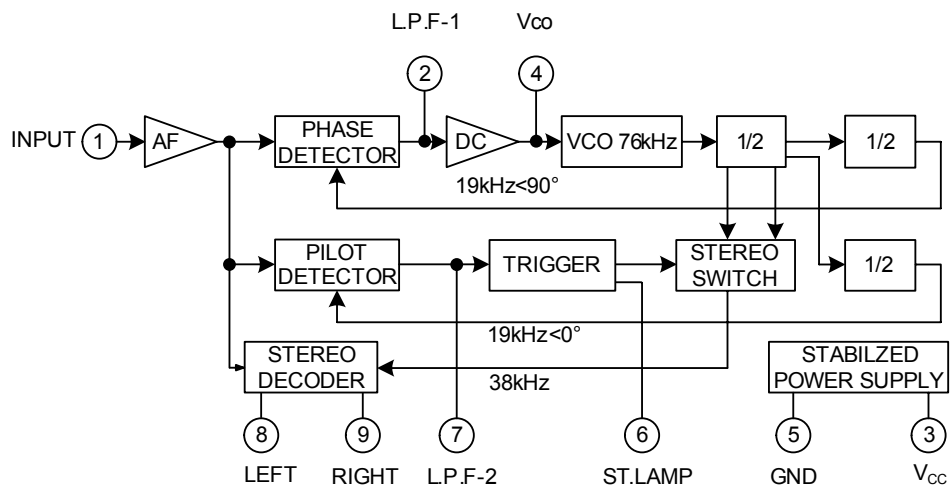


*Pb-free plating product number: A6043L

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 _{CC}	12	V
Lamp Voltage	V _{LAMP}	16	V
Lamp Current	I _{LAMP}	20	mA
Power Dissipation	P _D	500	mW
Operating Temperature	T _{OPR}	0 ~ +70	
Storage Temperature	T _{STG}	-40 ~ +150	

■ ELECTRICAL CHARACTERISTICS

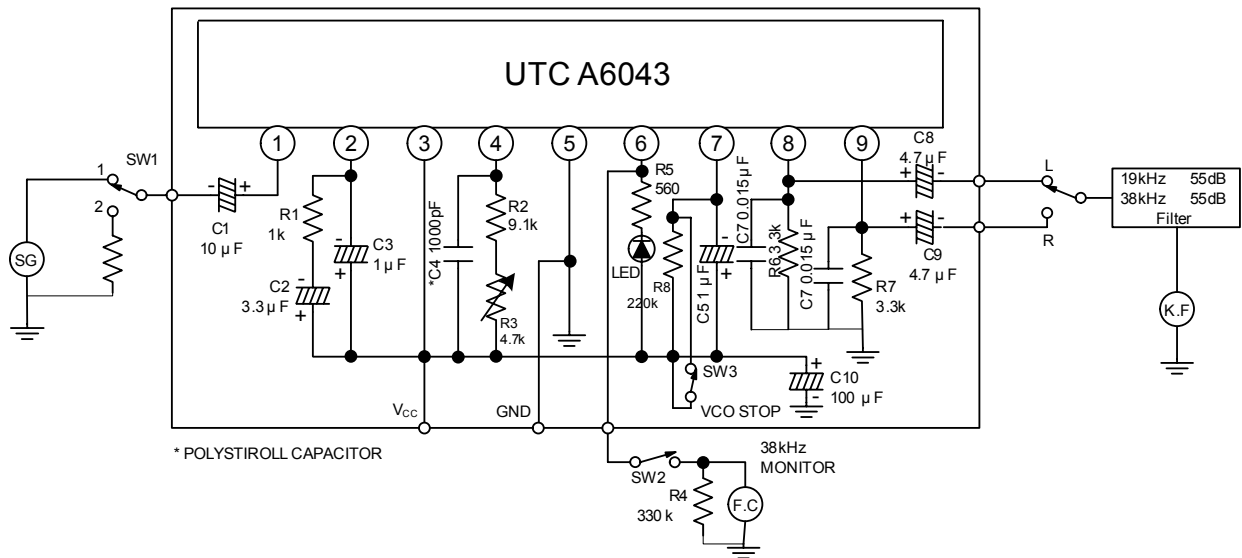
1. DC CHARACTERISTICS (Ta = 25 , V_{CC}= 8V, terminal Voltage at No Signal.)

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 _{CC}	V _{CC}		8.0		V
4	V _{CO}	V _{CO}		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_{CC}= 8V, f = 1kHz, unless otherwise specified.)

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

■ TEST CIRCUIT



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