

75Ω Driver without Output Capacitor

Monolithic IC MM1756 □□□□

Outline

This IC is a 75Ω driver with a built-in LPF and can operate at low voltage without requiring the output capacitor.

This IC is compatible with operating voltage of 3V and 5V systems, and can be used in such portable equipment as digital still camera as well as such stationary equipment as DVD player. It incorporates the 2nd order LPF, which is ideal for removing the DAC sampling noises.

In addition, ultra-low power consumption has been achieved by suppressing the current consumption during Power Save to under 1μA.

This IC can extend the battery life of the portable equipment.

Features

- 1. No output coupling capacitor required
- 2. Operation power supply voltage 2.8 to 5.5V (Compatible with 3V and 5V systems)
- 3. Operation ambient temperature range -40~85°C
- 4. Supply current under no load condition (No signal) 1.2mA
Supply current at 75Ω drive (No signal) 2.4mA
- 5. Current consumption during Power Save 1.0μA max.
- 6. Voltage gain 6±0.3dB at 100kHz
- 7. Built-in 2nd order LPF 4.5MHz/100kHz max. ±1.0dB
27MHz/100kHz typ. -21dB
- 8. Rank

Model Name	Package	Input Clamp	Built-in amplifier	LPF
MM1756AURE	SC-88A	○	6dB	4.50MHz
MM1756DURE	SC-88A	○	6dB	6.75MHz

Package

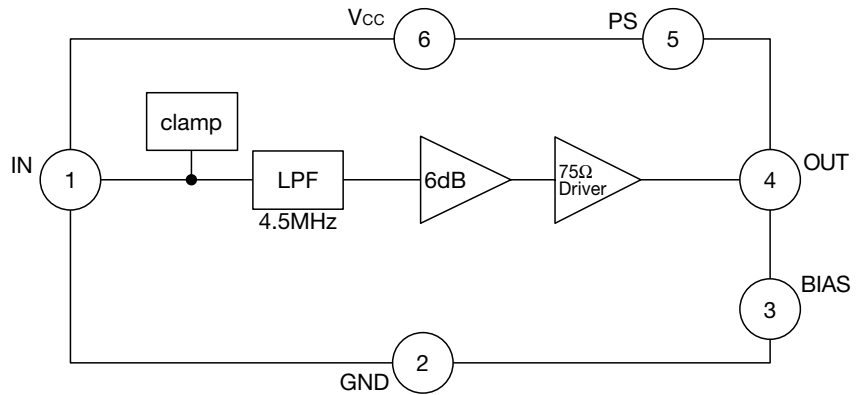
SC-88

Applications

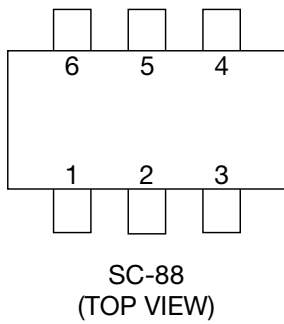
- 1. Digital still cameras
- 2. Cellular phone
- 3. DVD player and DVD recorder
- 4. Other video equipment

Block Diagram

■ SC-88



Pin Assignment



1	IN
2	GND
3	BIAS
4	OUT
5	PS
6	Vcc

Pin Description

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Pin No.	Pin name	Functions
1	IN	Signal input
2	GND	GND
3	BIAS	Bias
4	OUT	Signal output
5	PS	Power save
6	Vcc	Vcc

Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Ratings	Unit
Storage temperature	T _{STG}	-55~+150	°C
Operating temperature	T _{OPR}	-40~+85	°C
Supply voltage	V _{CC max.}	6	V
Allowable loss	P _d	540	mW

Board : 60 × 65mm t=1.6mm single sided glass epoxy

Recommended Operating Conditions

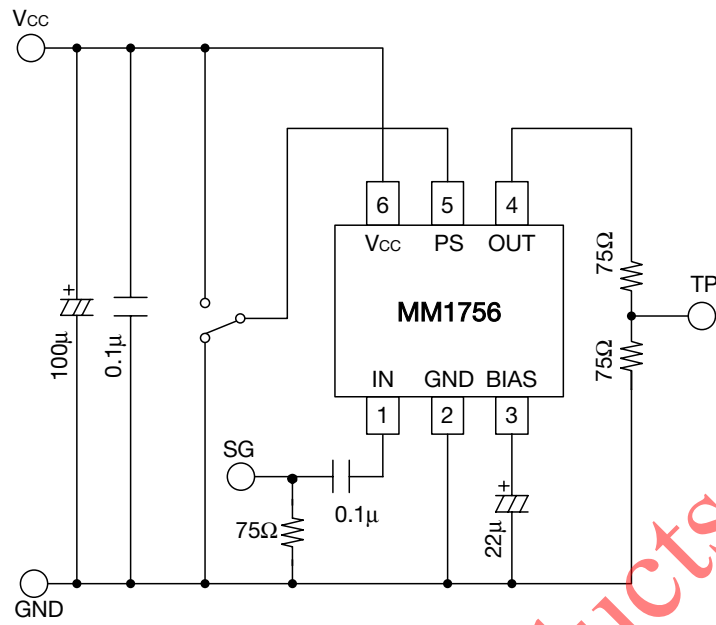
Item	Symbol	Ratings	Unit
Operating temperature	T _{OPR}	-40~+85	°C
Operating voltage	V _{CCOP}	2.8~5.5	V

Electrical Characteristics (Except where noted otherwise Ta=25°C, V_{CC}=3V) A rank product

Item	Symbol	Measurement conditions	Min.	Typ.	Max.	Units
Supply current	I _{CC1}	No signal		1.2	1.6	mA
Supply current at 75Ω drive	I _{CC2}	No signal R _L =150Ω		2.4	3.2	mA
Supply current (at Power save mode)	I _{CC3}	No signal PS : ON			1	μA
Power save terminal input current	H	I _{PSH}			110	μA
	L	I _{PSL}			6	μA
Power save terminal input voltage	H	V _{PSH}	2.0		V _{CC}	V
	L	V _{PSL}			0.5	V
Input terminal voltage	V _{IN}	1pin		1.2		V
Output terminal voltage	V _{OUT}	4 pin	0.05	0.1	0.15	V
75Ω termination point voltage	V _{term}	TP	25	50	75	mV
Voltage gain	G _v	SIN wave : 1V f=100kHz	5.7	6	6.3	dB
Frequency characteristic 1	f _{c1}	SIN wave : 1V 4.5MHz/100kHz	-1.0	0	1.0	dB
Frequency characteristic 2	f _{c2}	SIN wave : 1V 27MHz/100kHz		-21	-18	dB
Differential gain	DG	Staircase signal 1V		1.0	2.0	%
Differential phase	DP	Staircase signal 1V		0.5	2.0	°
Output dynamic range	DR	SIN wave : 100kHz THD=1.0%	2.4	2.6		V
S/N	SN	BW : 100k~6MHz		83		dB
Group delay	t _l	at 100kHz		30	60	ns
		to 3.58MHz		4		ns
		to 4.43MHz		5	20	ns
Output terminal resistance (at Power save mode)	4pin : 1.5V 5pin : 0V	4pin	1.4	2.0	2.6	MΩ

Measuring Circuit

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Switch Control Table

PS-Pin	Power-save
H	OFF
L	ON
OPEN	ON

Phased Out Products