

To learn more about ON Semiconductor, please visit our website at
www.onsemi.com

Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore product

of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of ON Semiconductor's product patent coverage may be accessed at www.onsemi.com/site/pdf/Patent- to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for determining the suitability of ON Semiconductor products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by ON Semiconductor. ON Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including Typical values, must be validated by technical experts. ON Semiconductor does not convey any license under its patent rights nor the rights of others. ON Semiconductor products are not designed, intended, or authorized for use as Class III medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use ON

is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

Pin Configuration

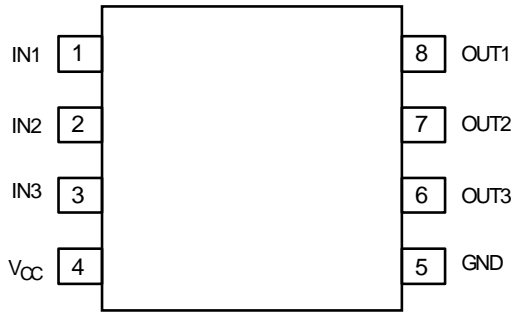


Figure 2. 8-Pin SOIC

Pin Definitions

Pin #	Name	Type	Description
1	IN1	Input	Video input, channel 1
2	IN2	Input	Video input, channel 2
3	IN3	Input	Video input, channel 3
4	V _{CC}	Input	+5V Supply
5	GND	Input	Ground
6	OUT3	Output	Filtered output, channel 3
7	OUT2	Output	Filtered output, channel 2
8	OUT1	Output	Filtered output, channel 1

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses recomen endelnend [(Inenv)10.6(ice. Tw[(A38 0.4ing)]]TJ31.489xTJ31.489x

DC Electrical Characteristics

$T_A=25^{\circ}\text{C}$, $V_{CC}=5\text{V}$, $R_{SOURCE}=37.5\Omega$, inputs AC coupled with $0.1\mu\text{F}$, all outputs AC coupled with $220\mu\text{F}$ into 150Ω loads, referenced to 400kHz ; unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
I_{CC}	Supply Current ⁽¹⁾	No Load		22	30	mA
V_{IN}	Video Input Voltage Range	Referenced to GND, if DC-coupled		1.4		V_{PP}

Note:

- 100% tested at 25°C .

AC Electrical Characteristics

$T_A=25^{\circ}\text{C}$, $V_{IN}=1V_{PP}$, $V_{CC}=5\text{V}$, $R_{SOURCE}=37.5\Omega$, inputs AC coupled with $0.1\mu\text{F}$, all outputs AC coupled with $220\mu\text{F}$ into 150Ω loads, referenced to 400kHz ; unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
AV	Channel Gain ⁽²⁾	All Channels	5.8	6.0	6.2	dB
f_{1dB}	-1dB Bandwidth ⁽²⁾	All Channels	23	30		MHz
f_c	-3dB Bandwidth	All Channels	30	33		MHz
f_{SB1}	Attenuation, Stopband Reject	All Channels at $f=37.125\text{MHz}$		6.5		dB
f_{SB2}		All Channels at $f=44.25\text{MHz}$		14.5		
f_{SB3}		All Channels at $f=74.25\text{MHz}$ ⁽²⁾	32	36		
THD1	Output Distortion, All Channels ⁽³⁾	$V_{OUT}=1.4V_{PP}$, 10MHz		0.2		%
THD2		$V_{OUT}=1.4V_{PP}$, 15MHz		0.4		
THD3		$V_{OUT}=1.4V_{PP}$, 22MHz		1.2		
X_{TALK}	Crosstalk Channel-to-Channel	At 1MHz		-60		dB
SNR1 SNR2	Signal-to-Noise Ratio, All Channels ⁽⁴⁾	Unweighed; 30MHz lowpass, 100kHz to 30kHz		65		dB
t_{pd}	Propagation Delay	Delay from input to output		20		ns

Notes:

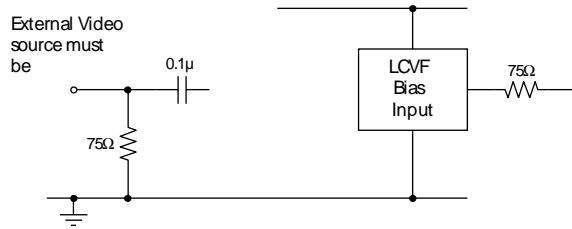
- 100% tested at 25°C .
- $1.4V_{PP}$ active video.
- $\text{SNR}=20 \cdot \log(714\text{mV/rms noise})$.

Applications Information

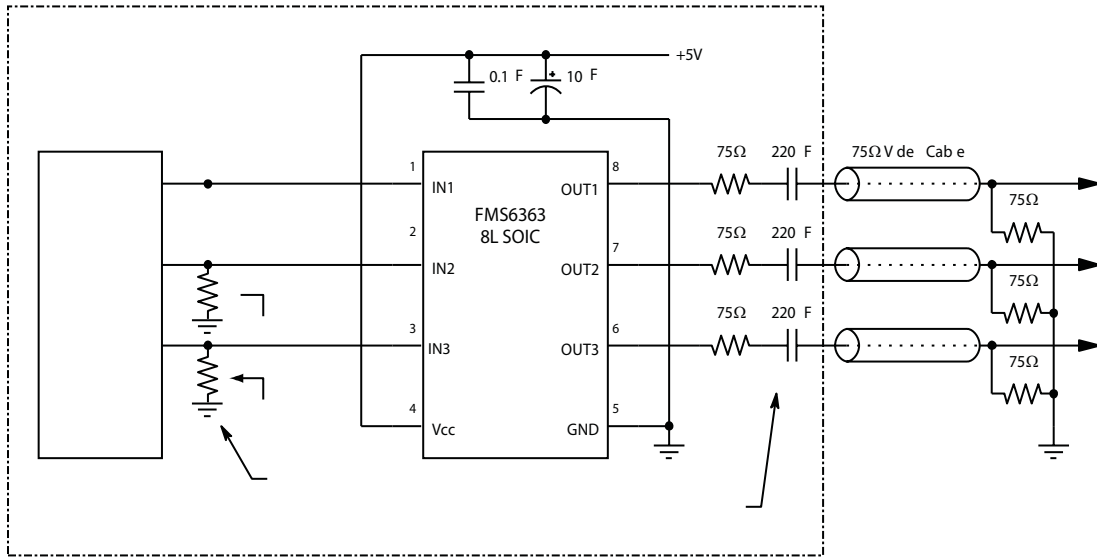
Functional Description

The FMS6363 Low-Cost Video Filter (LCVF) provides 6dB gain from input to output. In addition, the input is slightly offset to optimize the output driver performance. The offset is held to the minimum required value to decrease the standing DC current into the load. Typical

The same method can be used for biased signals with the addition of a pull-up resistor to make sure the clamp never operates. The internal pull-down resistance is $800\text{k}\Omega \pm 20\%$, so the external resistance should be $7.5\text{M}\Omega$ to set the DC level to 500mV . If a pull-up resistance of less than $7.5\text{M}\Omega$ desired, add an external pull-down such that the DC input level is set to 500mV .



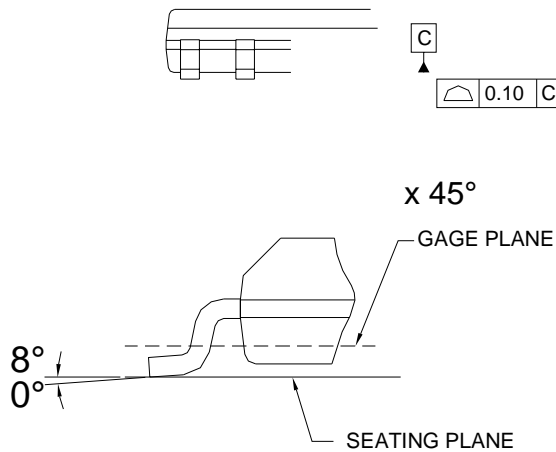
Typical Application



Physical Dimensions

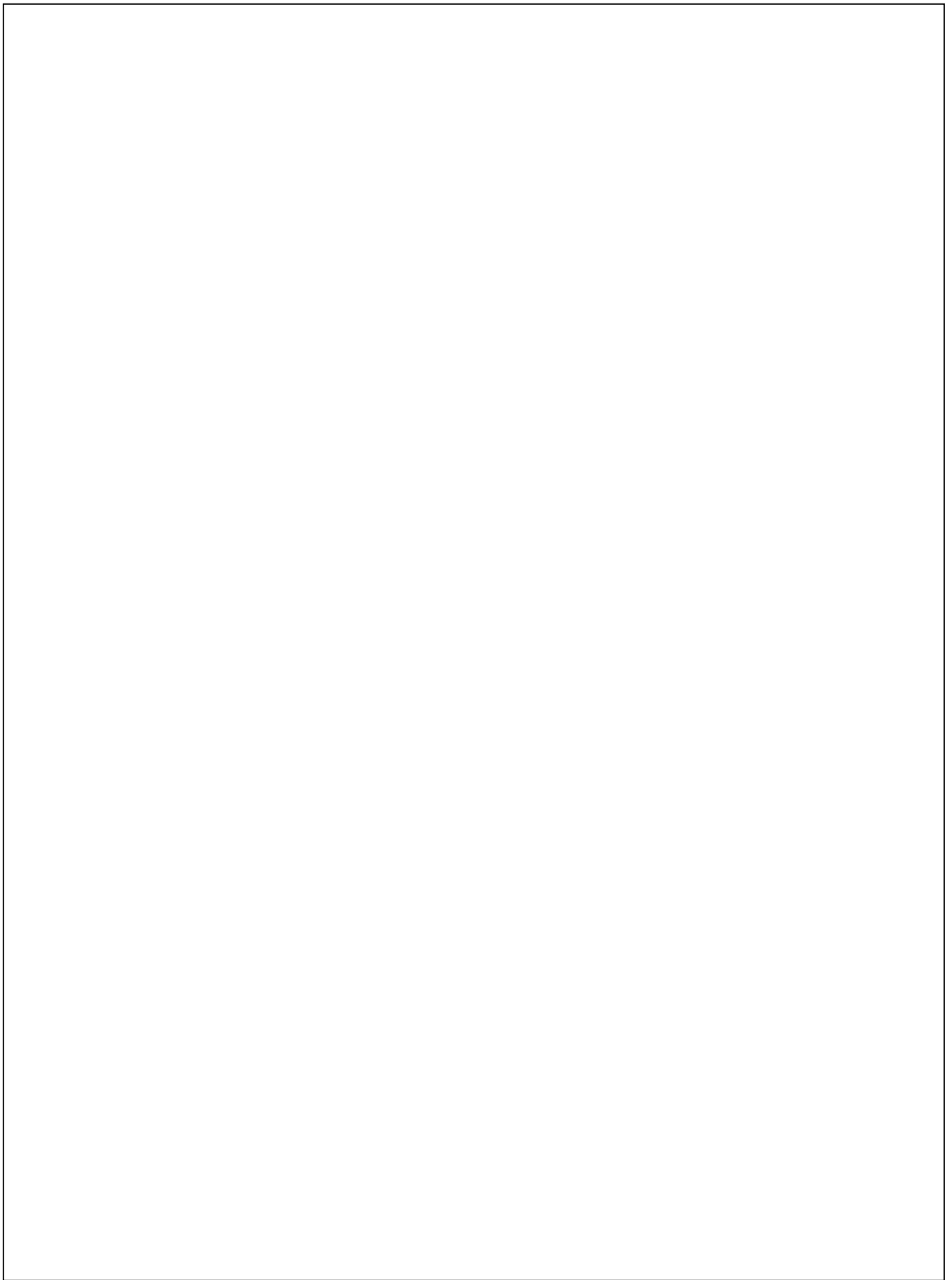
LAND PATTERN RECOMMENDATION


SEE DETAIL A



NOTES: UNLESS OTHERWISE SPECIFIED

- A) THIS PACKAGE CONFORMS TO JEDEC MS-012, VARIATION AA, ISSUE C.
- B) ALL DIMENSIONS ARE IN MILLIMETERS.
- C) DIMENSIONS DO NOT INCLUDE MOLD FLASH OR BURRS.
- D) LANDPATTERN STANDARD: SOIC127P600X175-8M.
- E) DRAWING FILENAME: M08AREV13



ON Semiconductor and  are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of ON Semiconductor's product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using ON Semiconductor products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by ON Semiconductor. "Typical" parameters which may be provided in ON Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. ON Semiconductor does not convey any license under its patent rights nor the rights of others. ON Semiconductor products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use ON Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold ON Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that ON Semiconductor was negligent regarding the design or manufacture of the part. ON Semiconductor is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:

Literature Distribution Center for ON Semiconductor
19521 E. 32nd Pkwy, Aurora, Colorado 80011 USA
Phone: 303-

N. American Technical Support: 800-282-9855 Toll Free
USA/Canada
Europe, Middle East and Africa Technical Support:
Phone: 421 33 790 2910
Japan Customer Focus Center
Phone: 81-3-5817-1050