MITSUBISHI ICs (AV COMMON)

M52065P/FP

3-CHANNEL ANALOG SWITCH

DESCRIPTION

The M52065 is an analog switch semiconductor integrated circuit designed for VCR and audio equipment applications. This IC contains three channels of 2-input switches. Each can be controlled independently.

FEATURES

- Small output voltage difference.....5 mV max. typ.
- Capable of DC direct connection because of no defference in DC voltage between input and output
- Low switching noise
- Wide dynamic range
- Wide frequency range.....30 MHz min. typ.
- Exclient crosstalk characteristic

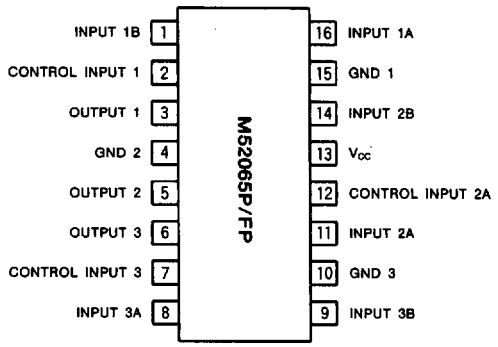
APPLICATION

VCR, Audio equipment

RECOMMENDED OPERATING CONDITION

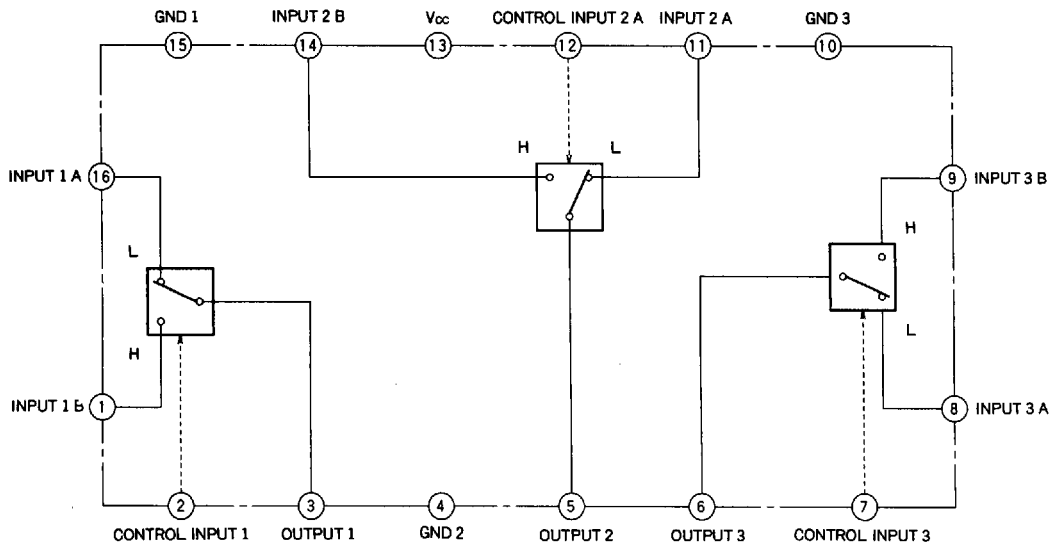
Supply voltage range.....4.5~7V

PIN CONFIGURATION (TOP VIEW)



Outline 16P4(P)
16P2P-A(FP)

BLOCK DIAGRAM



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3-CHANNEL ANALOG SWITCH

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Ratings	Unit
Vcc	Supply voltage	14	V
Pd	Power dissipation	1000 (430)	mW
K_θ	Thermal derating	10 (4.3)	mW/℃
Topr	Operating temperature	−20∼75	℃
Tstg	Storage temperature	−40∼125	℃

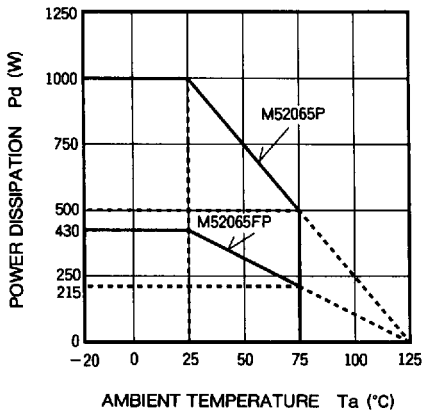
Note : Figures given in ( ) apply to FP.

ELECTRICAL CHARACTERISTICS (Ta=25℃, unless otherwise noted)

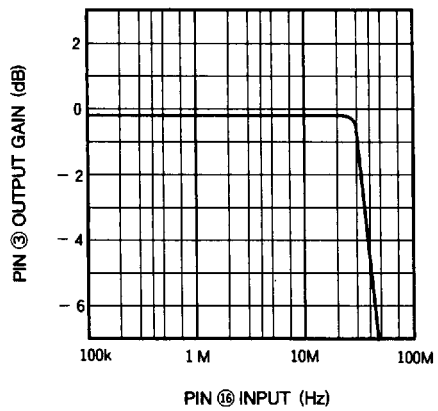
Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
Icc	Circuit current	When V_{CC}=5V	6.2	8.8	11.4	mA
Gv1	Voltage gain 1	f=1MHz, Vin=0.5V_{P-P}	−0.7	−0.2	0.3	dB
Gv2	Voltage gain 2	f=10MHz, Vin=0.5V_{P-P}	−0.6	−0.1	0.4	dB
HD	Second high harmonic distortion	f=5MHz, Vin=2.0V_{P-P}		−55	−50	dB
CTsw	Switch crosstalk	f=5MHz, Vin=0.5V_{P-P}		−70	−60	dB
CTch	C to H crosstalk	f=5MHz, Vin=0.5V_{P-P}		−70	−60	dB
Vos	DC output offset voltage		−10	0	10	mV
Vio	Input to output offset voltage		0	50	80	mV
Vth	SW threshold voltage	When V_{CC}=5V	1.5		2.0	V
Zin	Input impedance			20		kΩ

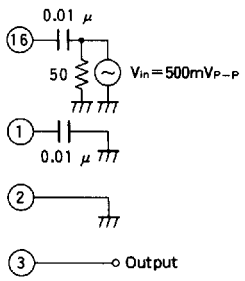
TYPICAL CHARACTERISTICS

THERMAL DERATING (MAXIMUM RATING)

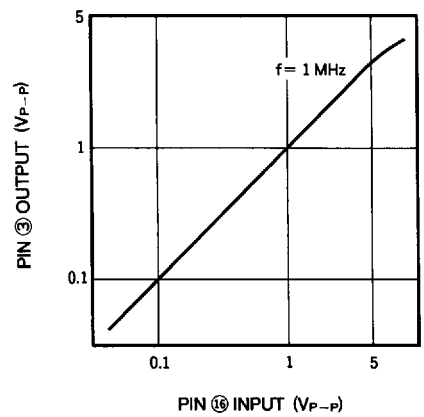


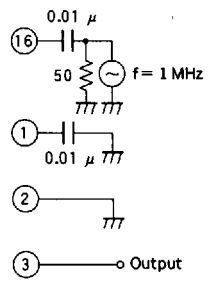
M52065P FREQUENCY CHARACTERISTICS



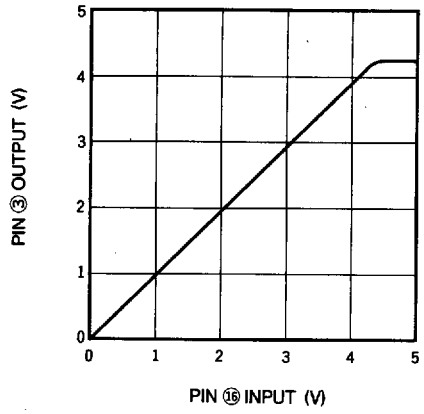


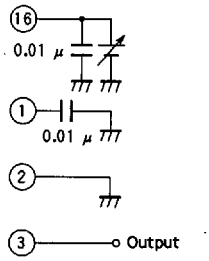
M52065P INPUT/OUTPUT CHARACTERISTICS



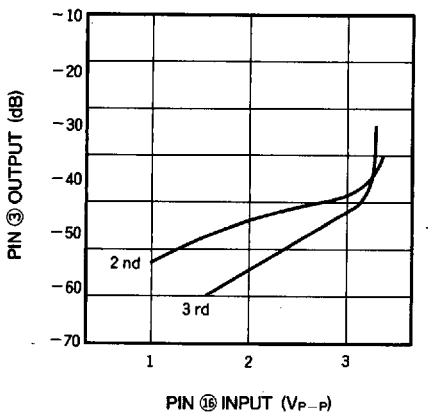


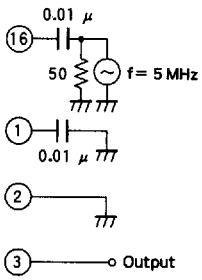
M52065P DC INPUT/OUTPUT CHARACTERISTICS



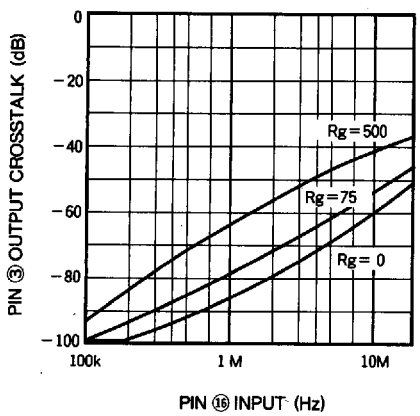


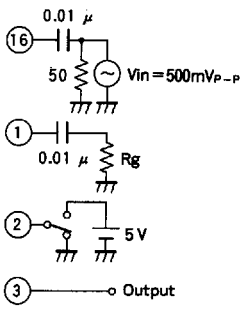
M52065P SECOND AND THIRD DISTORTION f=5 MHz



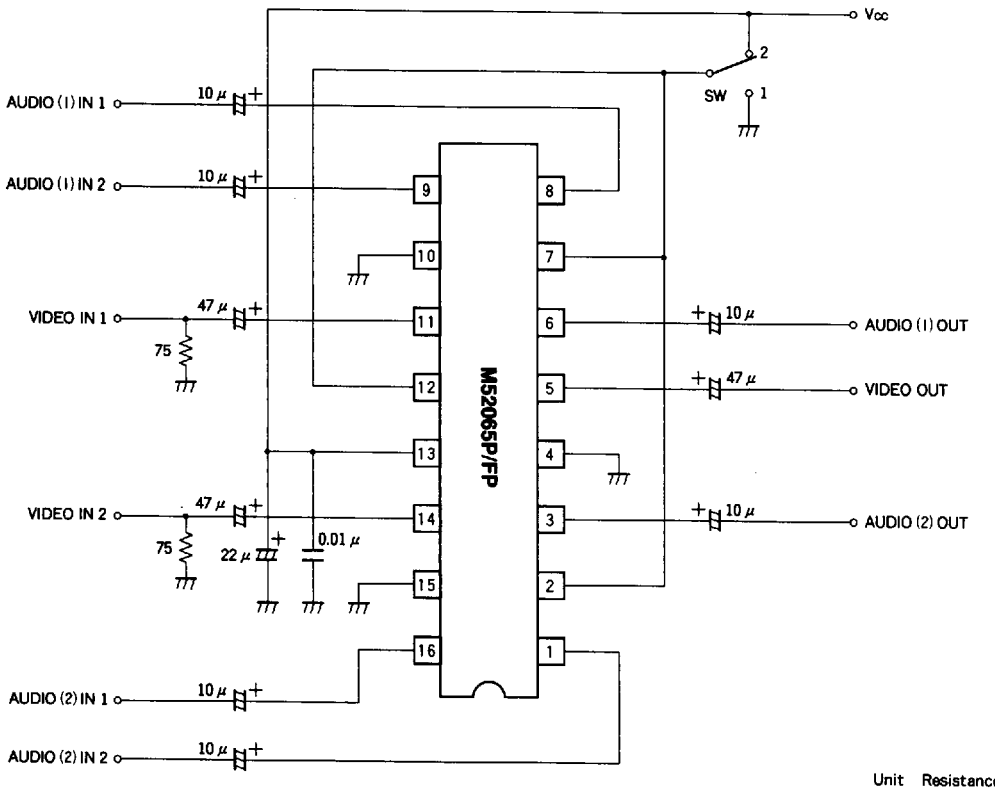


M52065P CROSSTALK CHARACTERISTICS





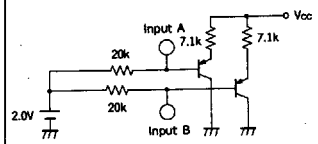
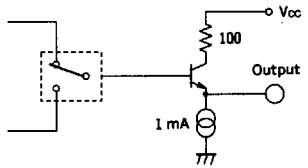
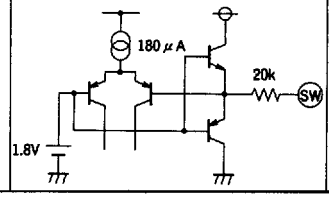
APPLICATION EXAMPLE



Unit Resistance : Ω
Capacitance : F

3-CHANNEL ANALOG SWITCH

DESCRIPTION OF PIN (The voltage and current values indicated below apply when V_{CC}=5V)

Pin No.	Name	Function		DC Voltage (V)
① ⑧ ⑨ ⑪ ⑭ ⑯	Input	Signal input pin		2.0
③ ⑤ ⑥	Output	Signal output pin		1.95
② ⑦ ⑫	SW	Switching pulse input pin		—