

M61089FP

PREAMPLIFIER WITH PHOTODETECTOR FOR OPTICAL PICKUP

DESCRIPTION

The M61089FP is a semiconductor integrated circuit developed for CD-ROM (24 times speed). The IC is housed in a 10-pin clear molded plastic package and contains 6 preamplifiers with divided photodetectors.

FEATURES

- Built-in 6 divided photodetectors
- Using small package (5.0 x4.0 x1.5mm)
- For three beam technique
- High Band preamplifier circuit (DC-28MHz)
- For infrared laser diode (ex. $\lambda = 780 \text{ nm}$)

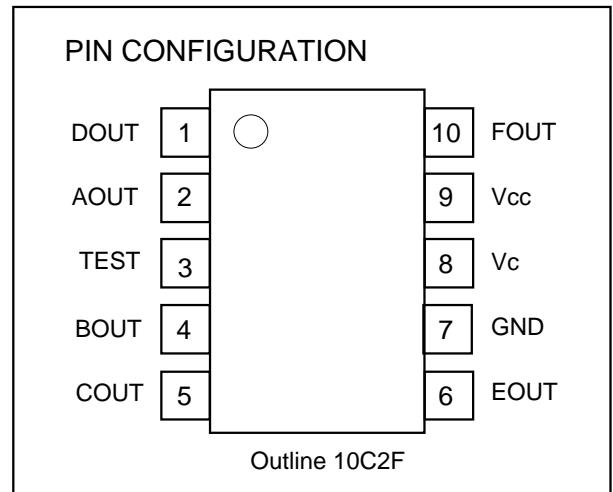
APPLICATION

CD-ROM etc.

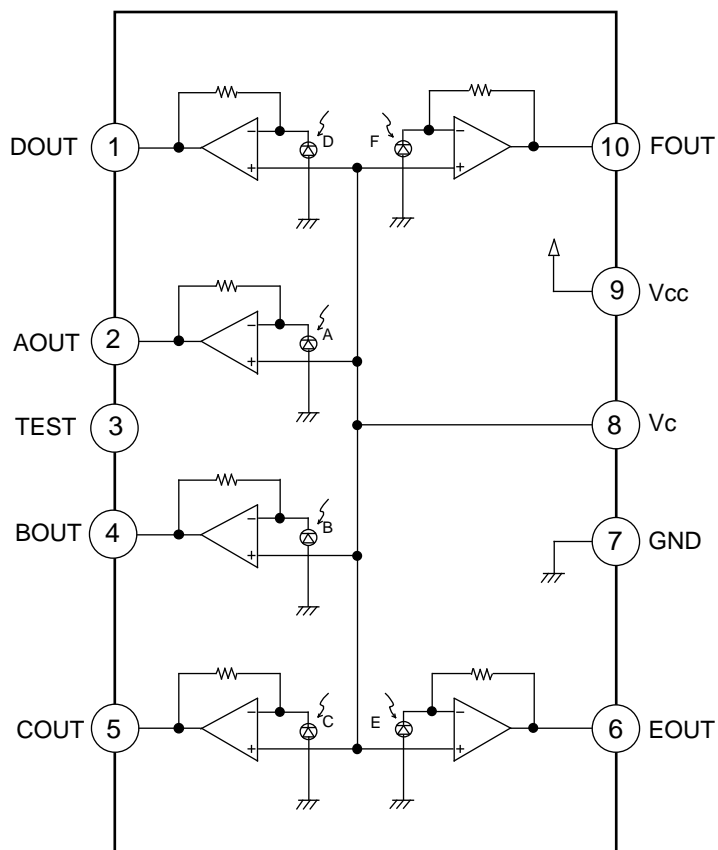
RECOMMENDED OPERATING CONDITIONS

Supply voltage range 3.3V to 5.5V

Rated supply voltage 5.0V



BLOCK DIAGRAM

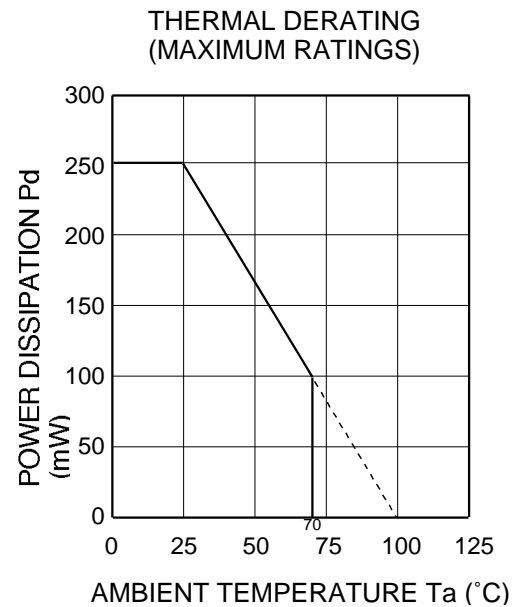
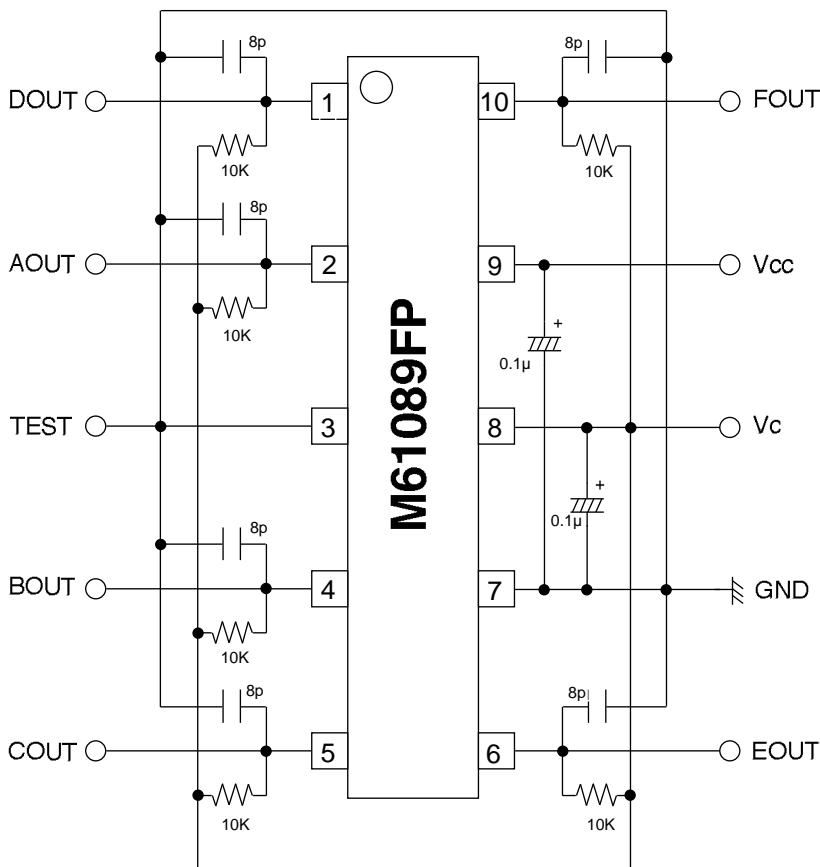


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ABSOLUTE MAXIMUM RATINGS (Ta=25°C , unless otherwise noted)

Symbol	Parameter	Rating	Unit
Vcc	Supply voltage	6.0	V
Pd	Power dissipation (Ta≤25°C)	250	mW
Topr	Operating temperature	-20 to +70	°C
Tstg	Storage temperature	-40 to +100	°C



Units Resistance : Ω
 Capacitance : F

*Please set the condenser connected to Vcc and Vc near the pin. (Within 10mm)

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ELECTRICAL CHARACTERISTIC (V_{CC}=5.0V , V_C=2.5V , T_a=25°C, unless otherwise noted)

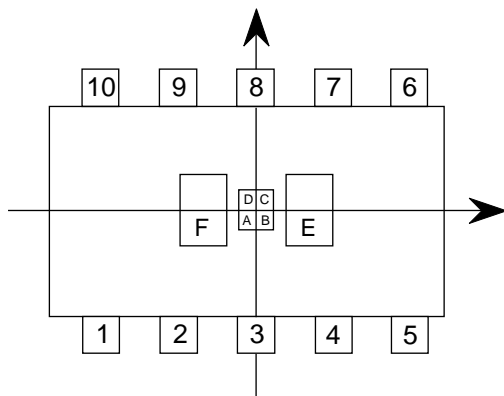
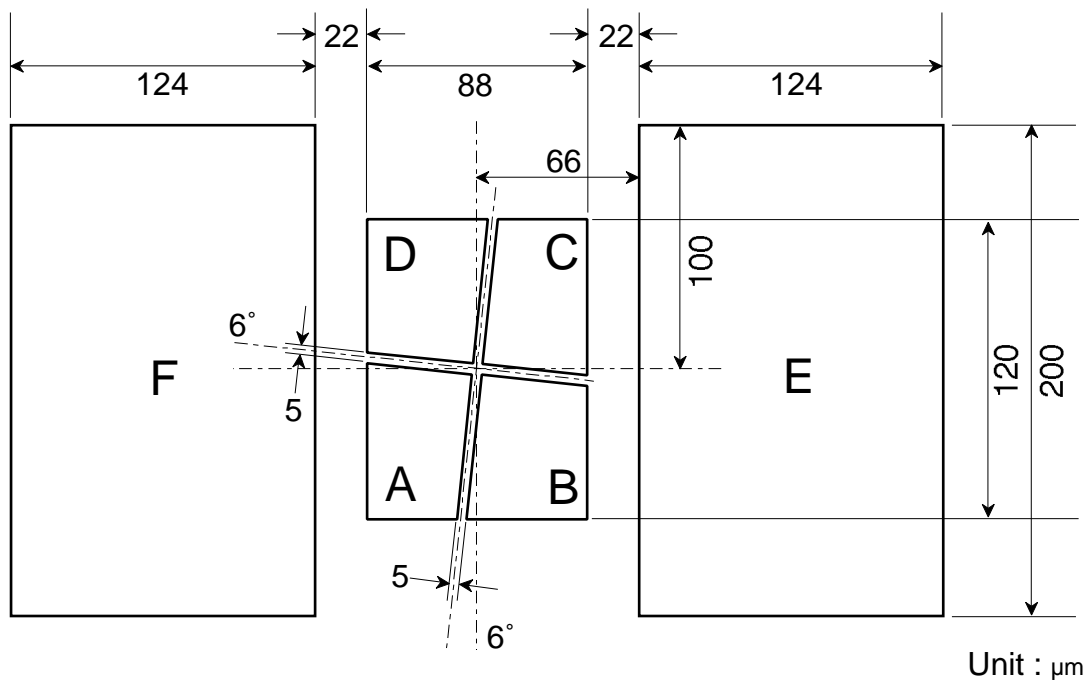
Parameter	Symbol	Test condition	Limits			Unit
			Min	Typ	Max	
Circuit current	I _{CC}	In the dark	4.8	6.0	7.2	mA
Output voltage	V _O	P _O =10μW λ =780nm Output A to D	240	300	360	mV
		P _O =10μW λ =780nm Output E to F	420	530	640	mV
Output voltage ratio	V _{OE} /V _{OA}	The ratio of output E to F toward output A to D	1.40	1.76	2.14	times
Output offset voltage	V _{OFF}	In the dark output A to F	-15	0	+15	mV
Delta output offset voltage	ΔV _{OFF}	In the dark (A+B) - (C+D)	-15	0	+15	mV
		In the dark (A+D) - (B+C)				
		In the dark E - F				
Frequency characteristic	f _c	P _O =10μW λ =780nm 3dB down Output A to D	25	28	-	MHz
		P _O =10μW λ =780nm 3dB down Output E to F	1.0	1.5	-	
Output noise voltage	V _{NO}	Output A to D (at f=20MHz)	-	-80	-74	dBm



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PD SIZE (TYPICAL)



- Note)
- A public difference from the SPD center and the flame $\pm 0.2\text{mm}$
 - A public difference from the center of the flame of molded package $\pm 0.2\text{mm}$
 - A public difference from the center of SPD and the center of molded package $\pm 0.4\text{mm}$
 - The rotation deviation of SPD toward the flame $\pm 3\text{ degree}$



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