7-channel Darlington transistor array

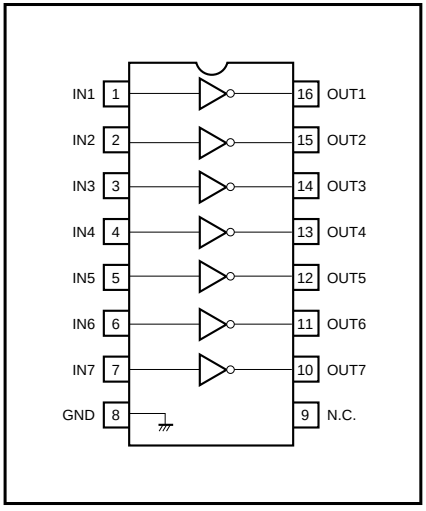
BA6250 / BA6250F / BA6251 / BA6251F

The BA6250, BA6250F, BA6251, and BA6251F are 7-channel transistor arrays particularly suitable for interfaces between a microcomputer in a VCR and the various ICs, or between one IC and another, and for low current drives such as LEDs.

●Features

1) High withstanding output voltage of 30V (max.).
2) Output current of 20mA max. ($V_{IN} \geqq 3V$).

●Block diagram



●Internal circuit configuration

BA6250 / BA6250F

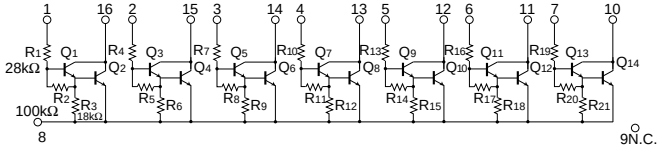


Fig.1

BA6251 / BA6251F

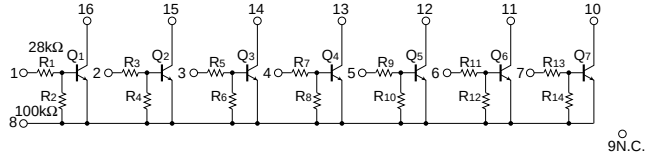


Fig.2

●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Power supply voltage	V_{CEO}	30	V
Power dissipation	Pd	500*	mW
Operating temperature	Topr	– 25 ~ + 75	°C
Storage temperature	Tstg	– 55 ~ + 125	°C
Input voltage	V_{IN}	30	V
Output current	$I_{O\ Max.}$	30	mA

* Reduced by 5mW for each increase in Ta of 1°C over 25°C.

●Electrical characteristics (unless otherwise noted, Ta = 25°C, V_{CC} = 12V)

Parameter	Symbol	Type	Min.	Typ.	Max.	Unit	Conditions	Measurement circuit
Output power supply voltage range	V_O	BA6250 / BA6250F	—	12	28	V	—	Fig. 3
		BA6251 / BA6251F	—	12	28		—	
Input high level voltage	V_{IH}	BA6250 / BA6250F	3	—	—	V	I_{OUT} = 20mA	Fig. 3
		BA6251 / BA6251F	2	—	—		I_{OUT} ≧ 1mA	
Input low level voltage	V_{IL}	BA6250 / BA6250F	—	—	0.6	V	I_{OUT} ≦ 10µA	Fig. 4
		BA6251 / BA6251F	—	—	0.3		I_{OUT} ≦ 10µA	
Output voltage	V_{OUT}	BA6250 / BA6250F	—	—	1.4	V	I_{OUT} = 20mA, V_{IN} = 12V	Fig. 3
Output saturation voltage	$V_{CE\ (sat)}$	BA6251 / BA6251F	—	0.3	—		I_{OUT} = 10mA, V_{IN} = 12V	
Output current	I_{OUT}	BA6250 / BA6250F	—	—	20	mA	V_{IN} ≧ 3V	Fig. 3
		BA6251 / BA6251F	—	—	20		V_{IN} ≧ 12V	
Input current	I_{IN}	BA6250 / BA6250F	—	—	0.6	mA	I_{OUT} = 10mA, V_{IN} = 12V	Fig. 3
		BA6251 / BA6251F	—	—	0.6		I_{OUT} = 10mA, V_{IN} = 12V	
Output leakage current	I_L	BA6250 / BA6250F	—	—	1	µA	V_{CC} = 28V, V_{IN} = 0V	—

●Measurement circuits

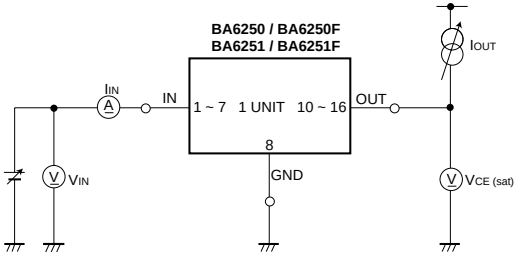


Fig.3

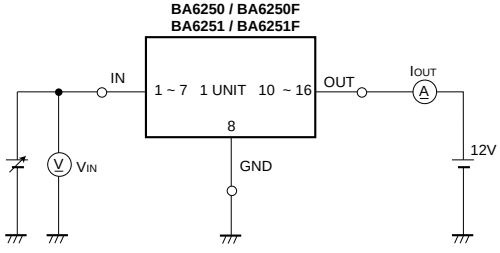
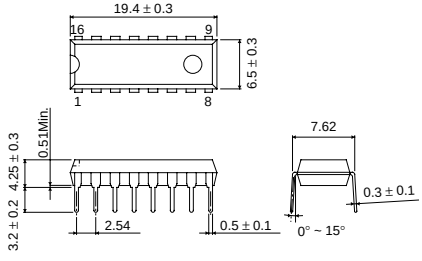


Fig.4

●External dimensions (Units: mm)

BA6250 / BA6251



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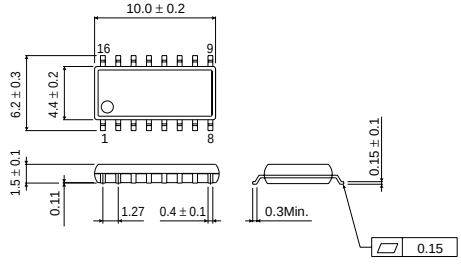
BA6250F / BA6251F



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