

1.3 Fuji Base Drive Module (Hybrid IC) EXB359

* Abstract

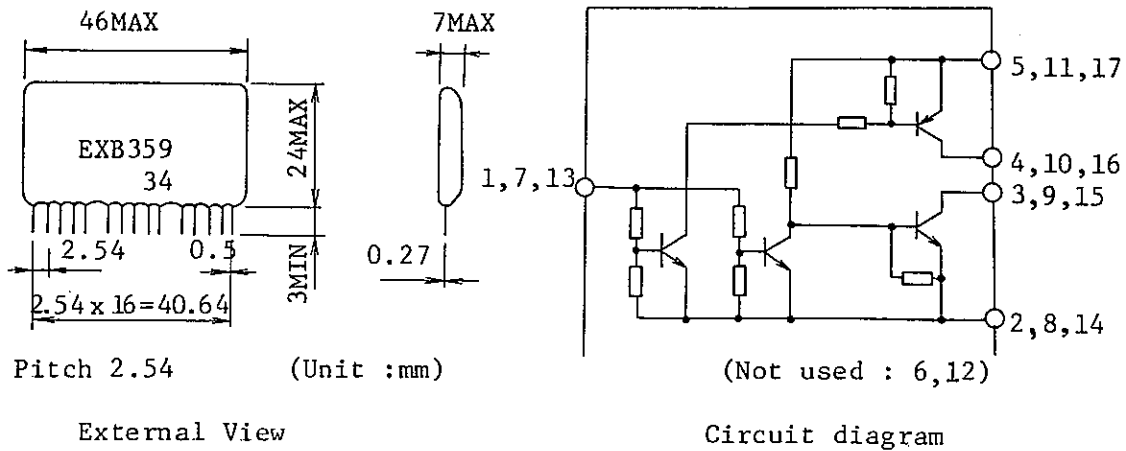
The EXB359 is a hybrid - IC base driver used in Fuji transistor modules. It includes an opto-coupler for the electrical isolation between in-put side and out-put side of base drive circuit. One package contains three circuits. Two EXB359s can configure a three-phase inverter circuit. The driver is contained in a small-sized 15-pin, in-line package and is most suitable for transistor inverters.

* Special features

- Includes opto-coupler; input and output are isolated electrically. (2500 VAC/lmin.)
(Example: Toshiba TLP521-1-BL, 2500 VAC/lmin)
- Two EXB359s (containing three circuits) can drive a three phase inverter circuit.

* Applications

Drive for transistors such as transistor inverters.



* Ratings and Characteristics

Absolute maximum rating. (Ta = 25°C)

Item	Symbol	Condition	Rating	Units
Forward bias supply-voltage	VCC		10	V
Opto coupler Input current	IIN		2.6~9	mA
Forward bias output current	IB1out	duty=0.5	0.6	A
Reverse bias output current	IB2out	PW=20μs, f=5KHZ MAX	3.0	A
Power dissipation	PD	Ta=55°C	0.8	W
Isolation voltage	VISO	AC50/60HZ, 1min	2500	V
Operating ambient temperature	Ta		-10~70	°C
Surface temperature while operating	Tc		-10~100	°C
Storage temperature	Tstg		-25~125	°C

* Electrical Characteristics (Ta = 25°C)

Item	Symbol	Condition	Value			Units
			MIN	TYP	MAX	
Turn-on time	Ton		-	-	1.3	μs
Turn-off time	Toff		-	-	1.3	μs
dv/dt capability for input and output	dv/dt		4000	-	-	V/μs

* Conditions

- . TC = -10~100°C
- . Junction temperature of driving transistor.
- . (Tj) = -10~130°C
- . Driving wire length between base drive circuit and driven transistor module must be less than 30cm.
- . Cut-off current must be less than 15A.
- . Vcc = 6.0V±10%
- ZO: ESBB01-1R50 FUJI ELECTRIC R2: 680 Ω
- PC: TLP521-1-BL TOSHIBA R3: 4.7KΩ
- RF: 6.8 Ω C3: 470μF
- EE: 0.2 Ω C5: 47μF
- . Opto-coupler input current IF = 5mA

* Application Circuit

