



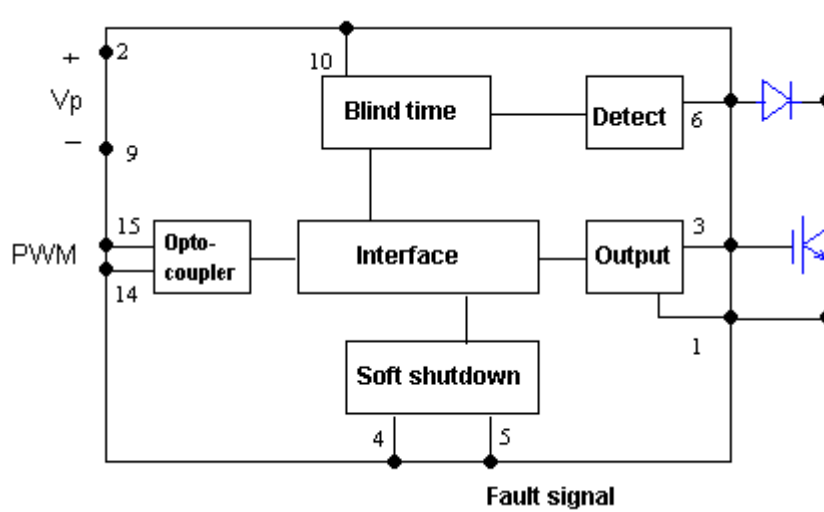
IGBT-Driving Hybrid IC

(TX-K841/K841L)

Application Manual



Block Diagram



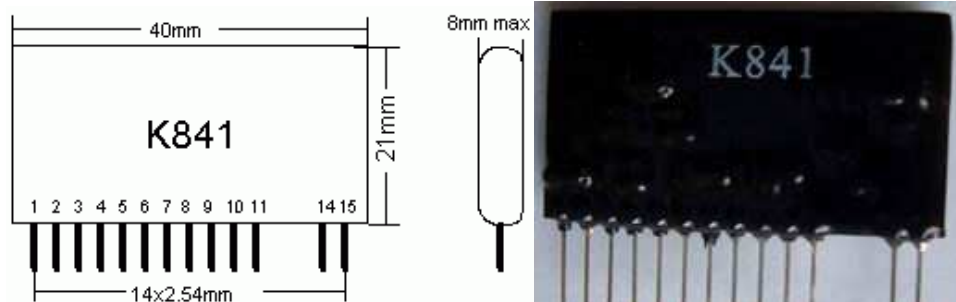
Features

- An IGBT driver for 300A/1200V or 600A/600V
- Improved EXB841. Replace directly. Less delay time, higher work frequency.
- Use only one single power supply. A negative power supply generated by driver itself which reduce the external devices.
- K841 and K841L have same build-in overcurrent protection circuit. Besides, K841L can block input PWM signal when IGBT is short-circuit, ensure that the soft shutdown can be effectively carried out.

Application

- To drive IGBT for Inverter, Servo systems, Uninterrupted power supply (UPS), Welding applications.

Dimensions (mm)



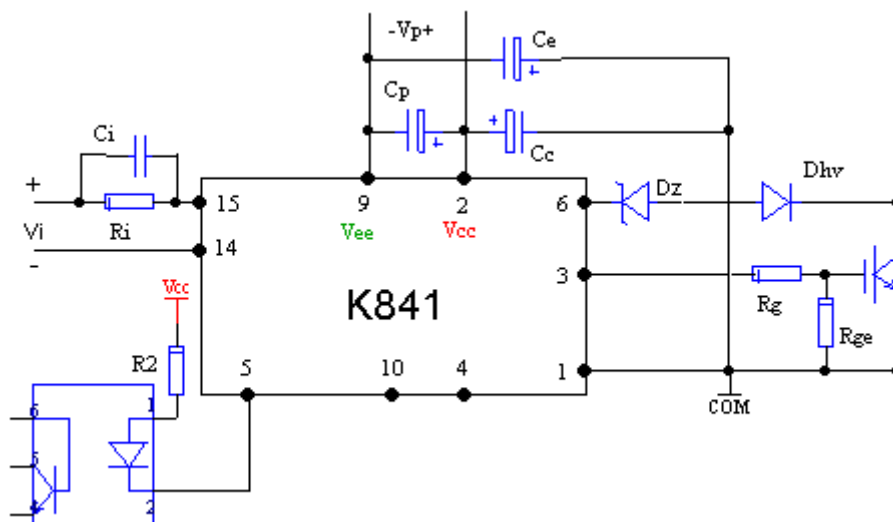
Electrical Characteristics (Ta=25°C, Vp=20V, Fop=50KHz, CL=100nF, unless otherwise stated)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Supply Voltage	Vp		19	20	21	V



Standby Current	Iio	CL=0		12		mA
Supply Current	Iil	CL=100n		100		
Input Signal Current Peak Value	Ipwm		8	10	13	mA
Output Voltage	Voh	Rg=2 Ω		14.5		
	Vol	CL=100nF		-4.5		
Output Current	Iohp	Fop=20KHz		6		A
	Iolp	Ton=2 μ S		-6		
Output Charge	Qout			2000	2800	nC
Isolation Voltage	VISO	50Hz/1 min		2500		Vrms
Operation Frequency	Fop		0		60	KHz
Duty Cycle	δ		0		100	%
Minimum Pulse Width	Tonmin	CL=100nF		0.8		μ S
Rise Delay	Trd	Rg=2 Ω ,Ipwm=10mA		0.2	0.5	μ S
Fall Delay	Tfd			0.3	0.6	
Rise Time	Tr	Rg=2 Ω ,CL=100nF		0.5	0.7	
Fall Time	Tf			0.5	0.7	
Protective Threshold	Vn			8.5		V
Blind Time	Tblind			2.5		μ S
Soft Shutdown Time	Tsoft			10		μ S
Output Fault Signal Current	Iflt			10	20	mA
Fault Signal Delay	Tflt			50		
Operation Temperature	Top		-30		90	°C
Storage Temperature	Tst		-50		120	°C

Application Circuit:





Notes:

1. Filter capacitor Cc, Ce and Cp are 22-47 μ F of electrolytic capacitor, each one are paralleled with a 0.22 μ F or more CBB capacitors. All capacitor \geq 25V.
2. $R_g=2.2-15 \Omega$; $R_{ge}\geq 4K7/0.25W$ 。
3. EXB841 can be replaced with K841/K841L directly in existing circuit. Optocoupler current input signal should be about 10 mA.

Reminded: Beware output short circuit between pin 3 and pin 1.

Pins Descriptions:

- 1: Ground reference of driver circuit, connected to the emitter of IGBT.
- 2: Positive port of power supply V_p .
- 3: Output port of driver, connected to the gate of IGBT.
- 4: Not used.
- 5: Output port of fault signal.
- 6: IGBT current detect port, connected to the collector of IGBT.
- 7、8: Not used.
- 9: Negative port of power supply V_p .
- 10、11、12、13: Not used.
- 14、15: Input signal.