

## Fuji Discrete Package IGBT

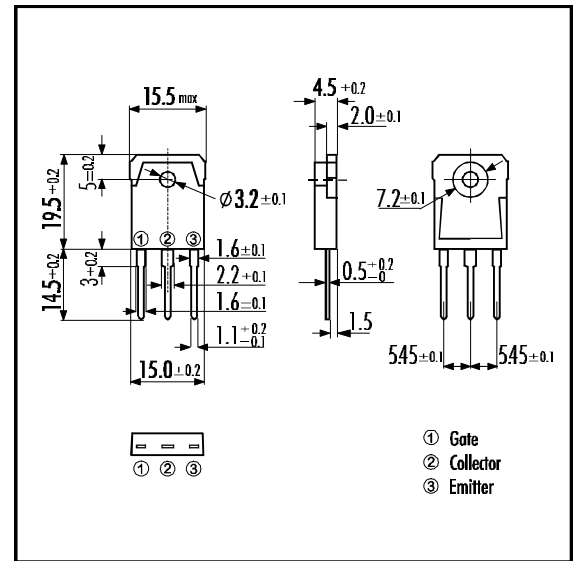
### ■ Features

- Square RBSOA
- Low Saturation Voltage
- Less Total Power Dissipation
- Minimized Internal Stray Inductance

### ■ Applications

- High Power Switching
- A.C. Motor Controls
- D.C. Motor Controls
- Uninterruptible Power Supply

### ■ Outline Drawing

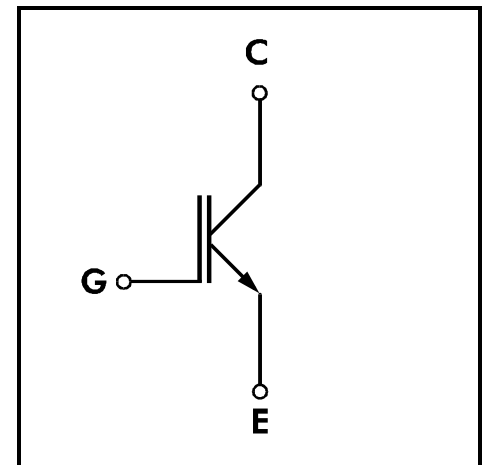


### ■ Maximum Ratings and Characteristics

#### • Absolute Maximum Ratings (T<sub>c</sub>=25°C)

Items	Symbols	Ratings	Units
Collector-Emitter Voltage	V <sub>CES</sub>	600	V
Gate -Emitter Voltage	V <sub>GES</sub>	± 20	V
Collector Current	DC T <sub>c</sub> = 25°C	I <sub>C 25</sub>	48
	DC T <sub>c</sub> =80°C	I <sub>C 80</sub>	30
	1ms T <sub>c</sub> = 25°C	I <sub>C PULSE</sub>	192
IGBT Max. Power Dissipation	P <sub>C</sub>	180	W
Operating Temperature	T <sub>i</sub>	+150	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +150	°C
Mounting Screw Torque		50	Nm

### ■ Equivalent Circuit



#### • Electrical Characteristics (at T<sub>F</sub>=25°C)

Items	Symbols	Test Conditions	Min.	Typ.	Max.	Units
Zero Gate Voltage Collector Current	I <sub>CEs</sub>	V <sub>GE</sub> =0V V <sub>CE</sub> =600V			1.0	mA
Gate-Emitter Leakage Current	I <sub>GES</sub>	V <sub>CE</sub> =0V V <sub>GE</sub> =± 20V			20	μA
Gate-Emitter Threshold Voltage	V <sub>GE(th)</sub>	V <sub>GE</sub> =20V I <sub>C</sub> =30mA	5.5		8.5	V
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	V <sub>GE</sub> =15V I <sub>C</sub> =30A			3.0	
Input capacitance	C <sub>ies</sub>	V <sub>GE</sub> =0V		1900		pF
Output capacitance	C <sub>oes</sub>	V <sub>CE</sub> =10V		400		
Reverse Transfer capacitance	C <sub>res</sub>	f=1MHz		100		
Switching Time	Turn-on Time	V <sub>CC</sub> =300V I <sub>C</sub> =30A V <sub>GE</sub> =±15V R <sub>G</sub> =82Ω	t <sub>ON</sub>		1.2	μs
			t <sub>r</sub>		0.6	
	Turn-off Time		t <sub>OFF</sub>		1.0	
			t <sub>f</sub>		0.35	
	Turn-on Time	V <sub>CC</sub> =300V I <sub>C</sub> =30A V <sub>GE</sub> =+15V R <sub>G</sub> =8Ω	t <sub>ON</sub>	0.16		μs
			t <sub>r</sub>	0.11		
	Turn-off Time		t <sub>OFF</sub>	0.30		
			t <sub>f</sub>		0.35	

#### • Thermal Characteristics

Items	Symbols	Test Conditions	Min.	Typ.	Max.	Units
Thermal Resistance	R <sub>th(j-c)</sub>				0.69	°C/W

