

### Diode Module with Brake

Diode:1600V / 75A, IGBT:1400A/50A

#### ■ Features

- Compact Package
- P.C. Board Mount Module
- Converter Diode Bridge Dynamic Brake Circuit

#### ■ Applications

- Inverter for Motor Drive
- AC and DC Servo Drive Amplifier
- Uninterruptible Power Supply

#### ■ Maximum ratings and characteristics

● Absolute maximum ratings (Tc=25°C unless without specified)

Item	Symbol	Condition		Rating	Unit	
Converter	Repetitive peak reverse voltage	VRRM		1600	V	
	Non-repetitive peak reverse voltage	VRRM		1760	V	
	Average output current	Io	50Hz/60Hz sine wave Tc=115°C	75	A	
	One cycle surge current	IFSM	From rated load	600	A	
	Peak current	IT	From rated load	1440	A	
	Operation junction temperature	Tj		-40 to +125	°C	
Brake	Collector-Emitter voltage	VGES		1400	V	
	Gate-Emitter voltage	VGES		±20	V	
	Collector current	Ic	DC	Tc=25°C	50	A
				Tc=75°C	35	
			1ms	Tc=25°C Tc=75°C	100 20	A
	Collector power dissipation	Pc	1 device	240	W	
	Repetitive peak reverse voltage	VRRM		1400	V	
	Operation junction temperature	Tj		+150	°C	
	Storage junction temperature	Tsg	AC : 1 minute	-40 to +125	°C	
	Isolation voltage	Viso	M5 screw	3000	V	
Mounting screw torque			2.0 to 2.5	N·m		

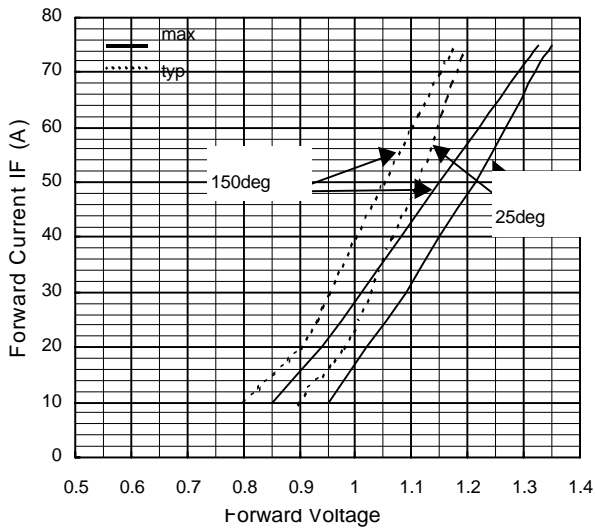
● Electrical characteristics (Tj=25°C unless otherwise specified)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit	
Co.	Forward voltage	VFM			1.35	V	
	Reverse current	IRRM	Tj=150°C, VR=VRRM		15	mA	
Brake	Zero gate voltage Collector current	ICES	VGE=0V. VCE=1400V		1.0	mA	
	Gate-Emitter leakage current	IGES	VCE=0V. VGE=±20V		200	nA	
	Collector-Emitter saturation voltage	VCE(sat)	VGE=15V. Ic=35A		2.4	2.8	V
	Turn-on time	ton	Vcc=800V		0.35	1.2	µs
		tr	Ic=35A		0.25	0.6	
	Turn-off time	toff	VGE=±15V		0.45	1.0	
		tf	Rg=33ohm		0.08	0.3	
Reverse current	IRRM				1.0	mA	

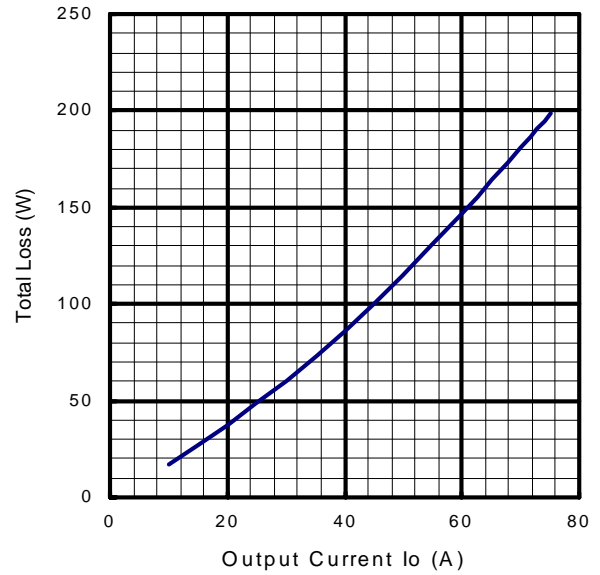
● Thermal characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Thermal resistance	Rth(j-c)	Converter	Per total loss		0.16	°C/W
			Per each device		0.96	
		Brake IGBT (1 device)		0.70		
Thermal Resistance(Case to fine)	Rth(c-f)	with thermal compound			0.08	°C/W

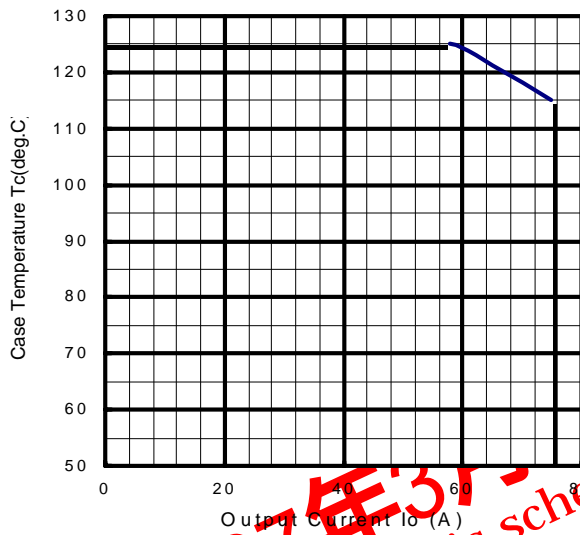
Forward Characteristics



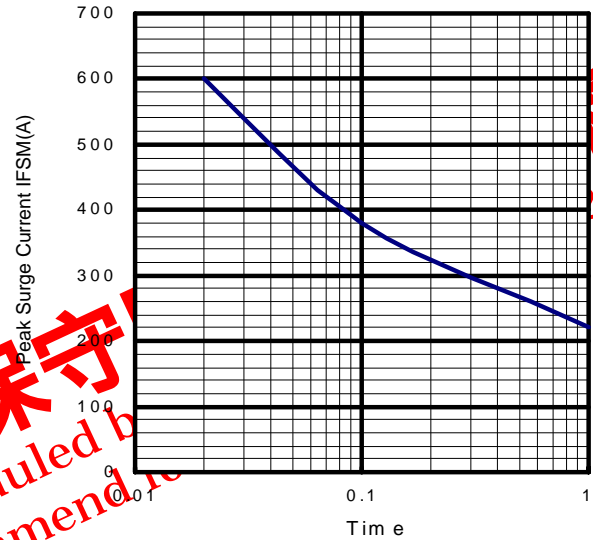
Output Current - Total Loss



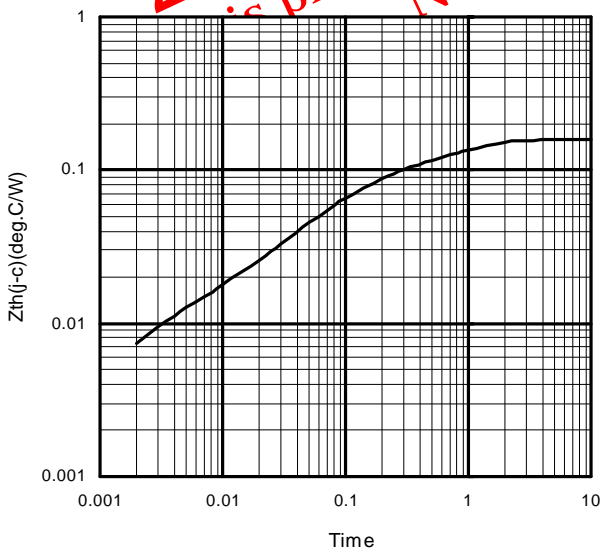
Output Current - Case Temperature



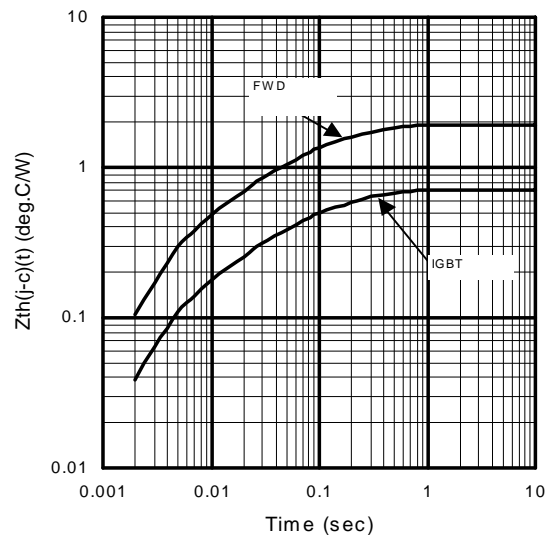
Surge Current



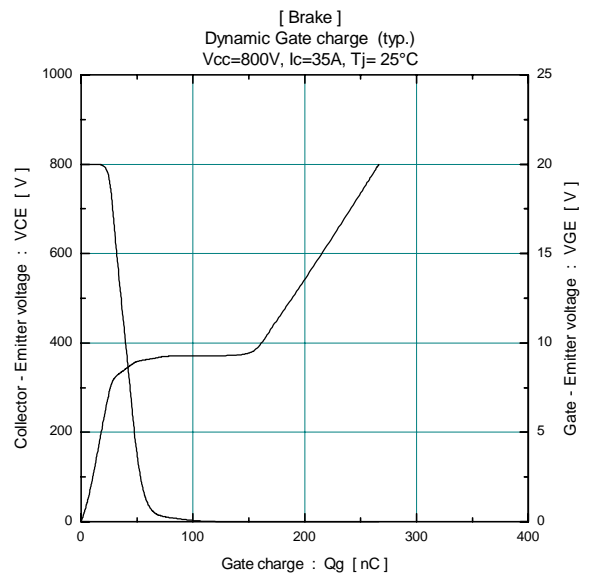
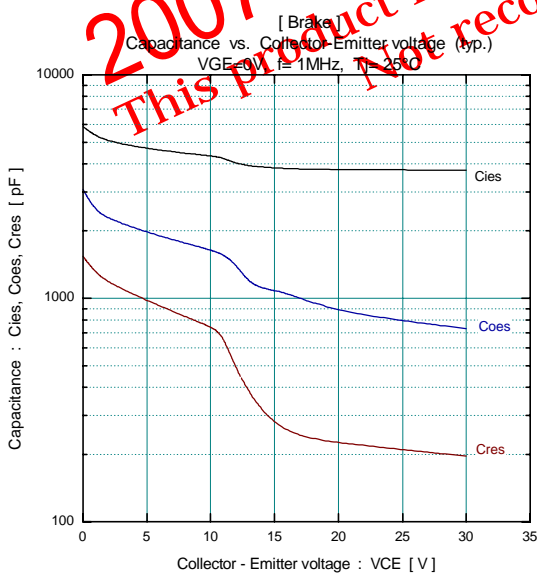
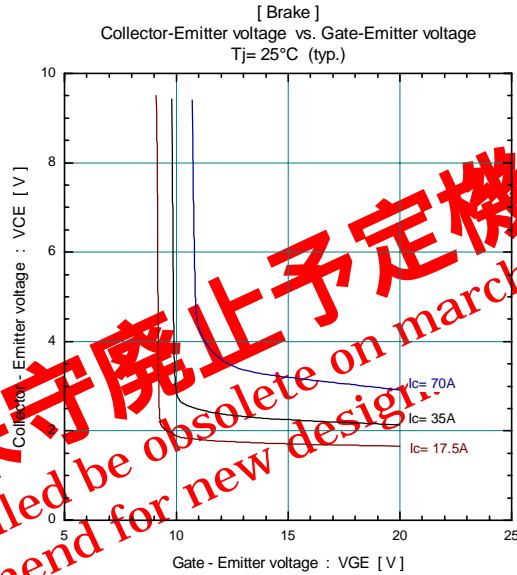
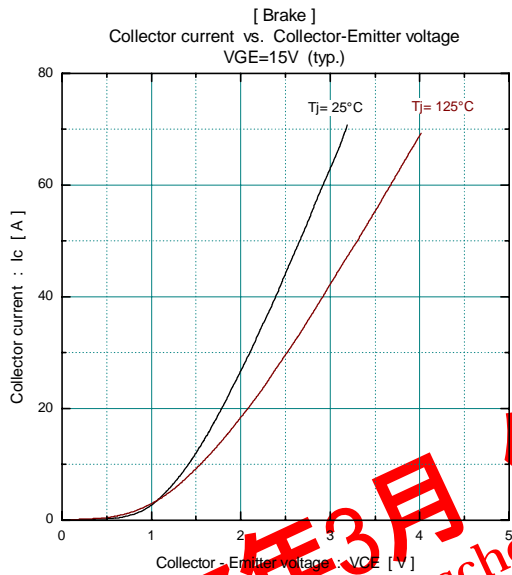
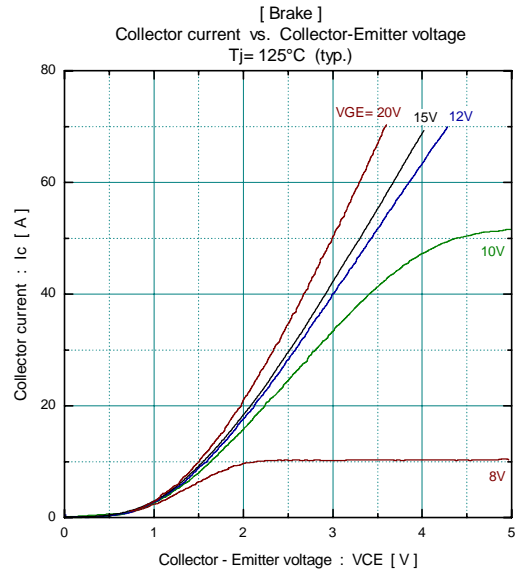
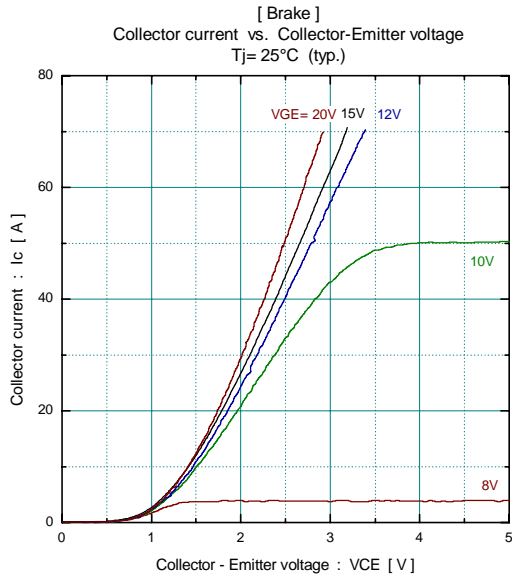
Transient Thermal Impedance



[ Brake ] Transient Thermal Impedance

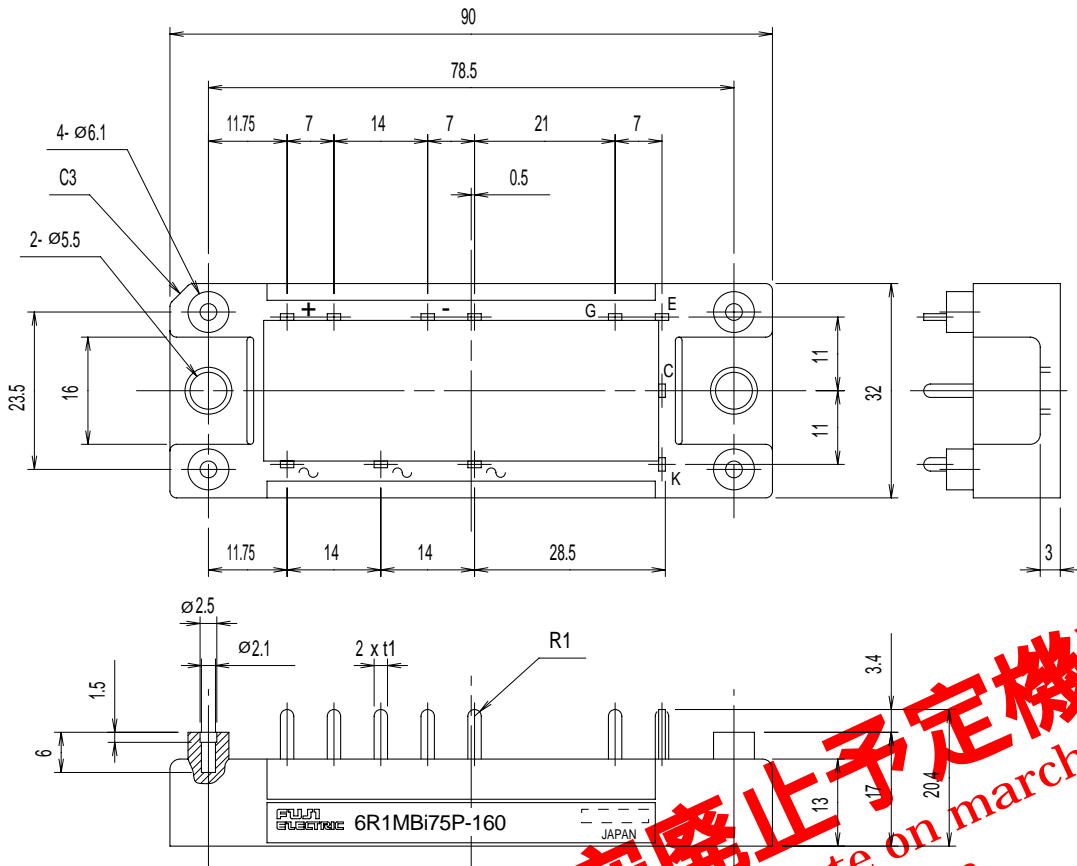


2007年5月 保守  
 This product is scheduled for obsolescence  
 Not recommended for new designs

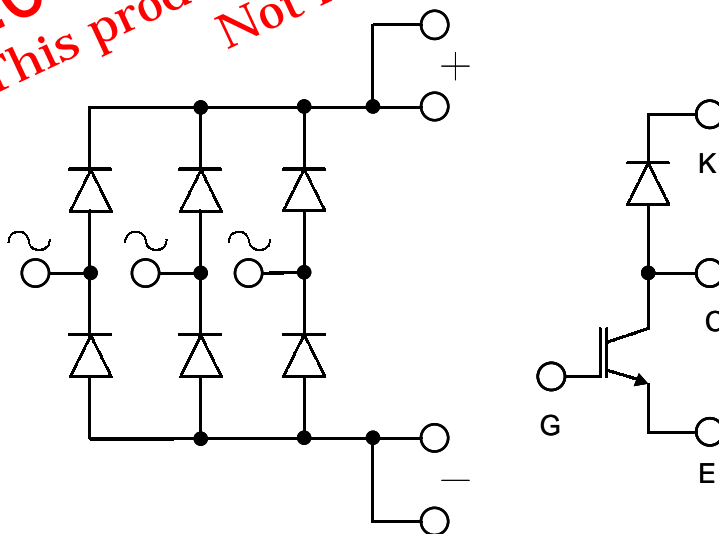


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■ Outline Drawings, mm



■ Equivalent Circuit Schematic



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