

### Diode Module with Brake

Diode:1600V / 100A, IGBT:1400A/75A

#### ■ 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=110°C	100	A
	One cycle surge current	IFSM	From rated load	1000	A
	Peak current	It	From rated load	4000	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 75	A
			Tc=75°C	50	A
		IcP	1ms	Tc=25°C 150 Tc=75°C 100	A
	Collector power dissipation	Pc	1 device	360	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	2500	V
Mounting screw torque			2.0 to 2.5	N·m	

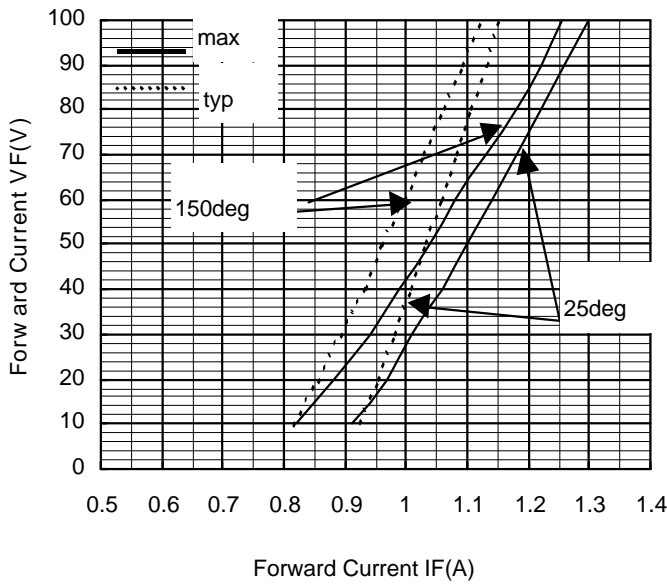
● Electrical characteristics (Tj=25°C unless otherwise specified)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit	
Co.	Forward voltage	VFM			1.30	V	
	Reverse current	IRRM			20	mA	
Brake	Zero gate voltage Collector current	ICES			1.0	mA	
	Gate-Emitter leakage current	IGES			200	nA	
	Collector-Emitter saturation voltage	VCE(sat)	VGE=15V. Ic=50A		2.4	2.8	V
	Turn-on time	ton	Vcc=800V		0.35	1.2	µs
		tr	Ic=50A		0.25	0.6	
	Turn-off time	toff	VGE=±15V		0.45	1.0	µs
		tf	Rg=25ohm		0.08	0.3	
Reverse current	IRRM				1.0	mA	

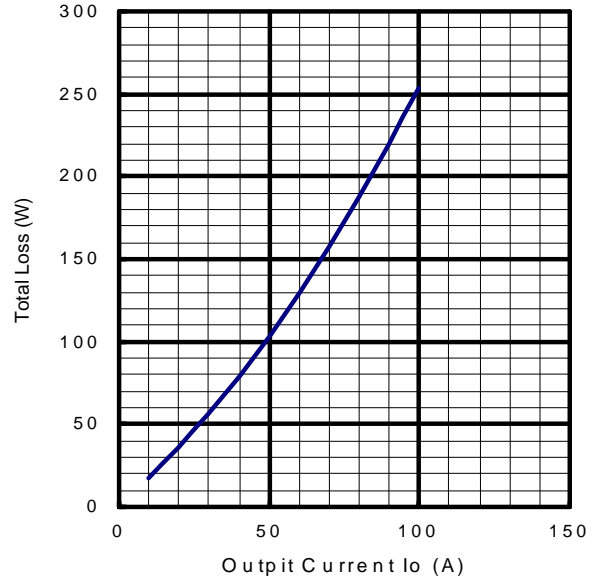
● Thermal characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Thermal resistance	Rth(j-c)	Converter	Per total loss		0.14	°C/W
			Per each device		0.84	
		Brake IGBT (1 device)		0.55		
Thermal Resistance(Case to fine)	Rth(c-f)	with thermal compound			0.08	°C/W

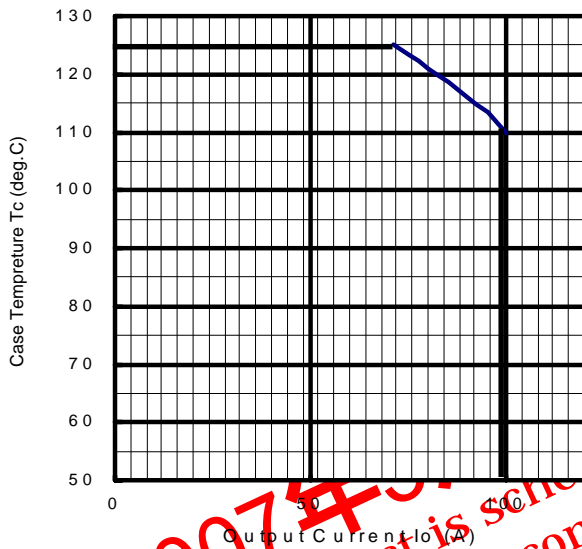
Forward Characteristics



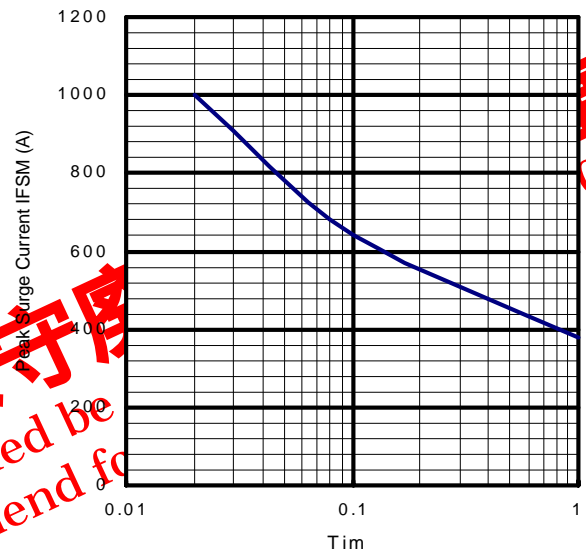
Output Current - Total Loss



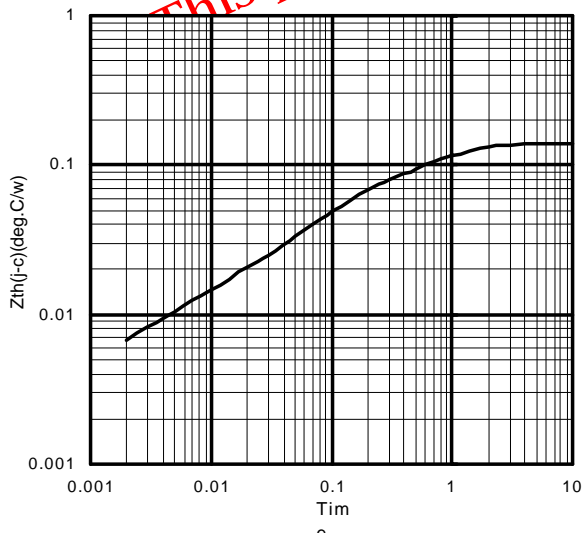
Output Current - Case Temperature



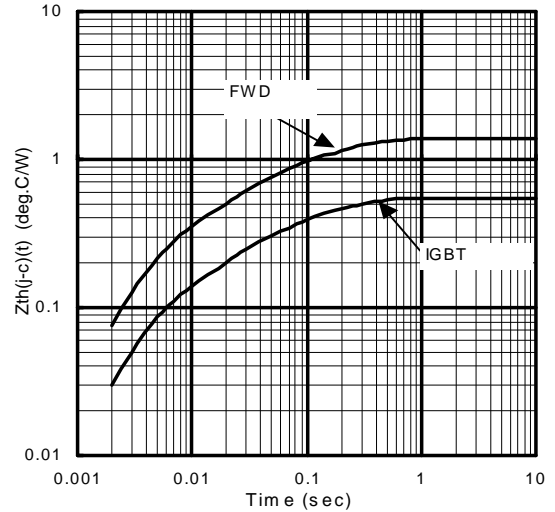
Surge Current



Transient Thermal Impedance

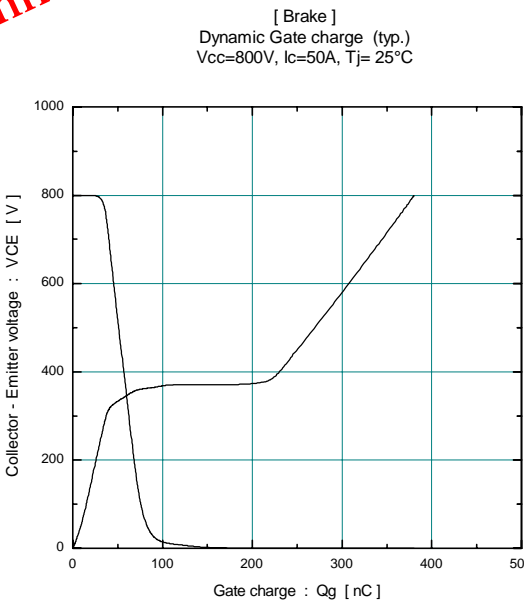
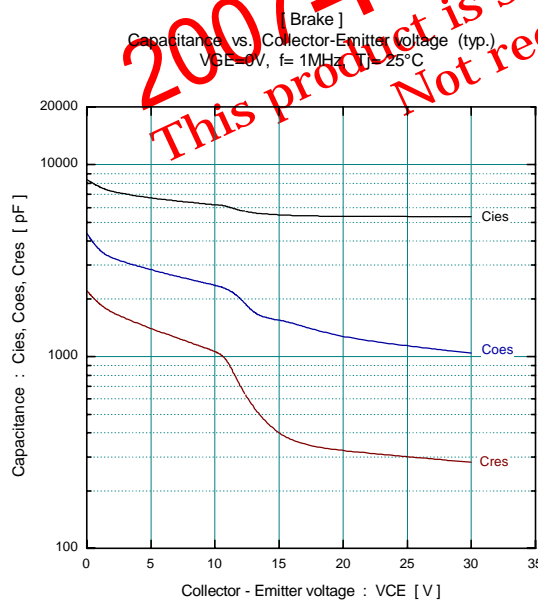
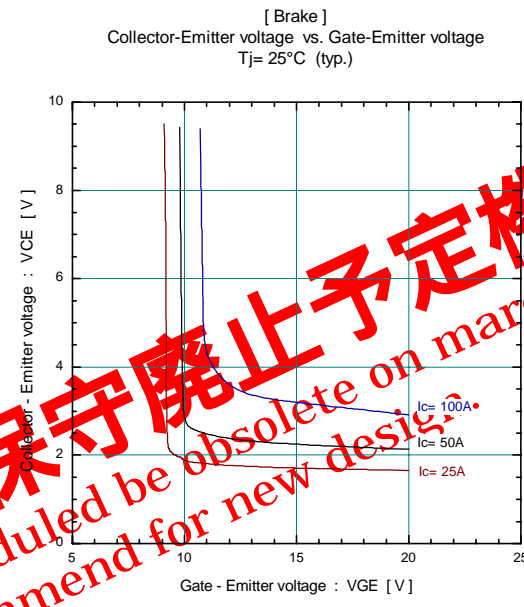
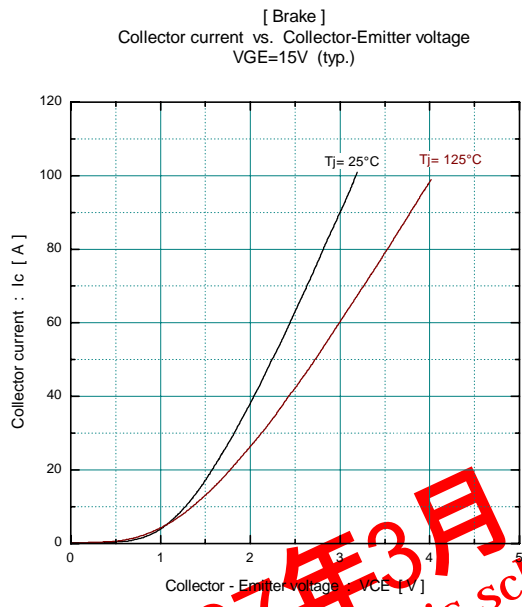
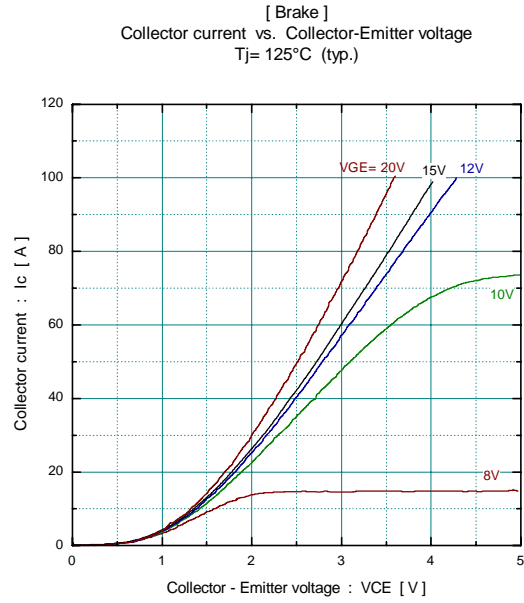
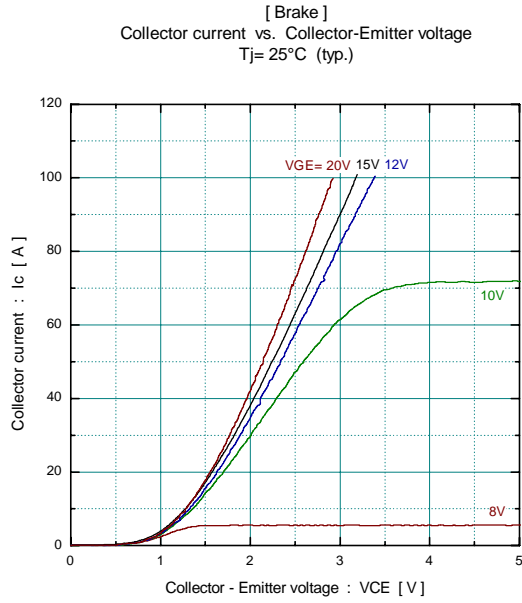


[ Brake ] Transient Thermal Impedance



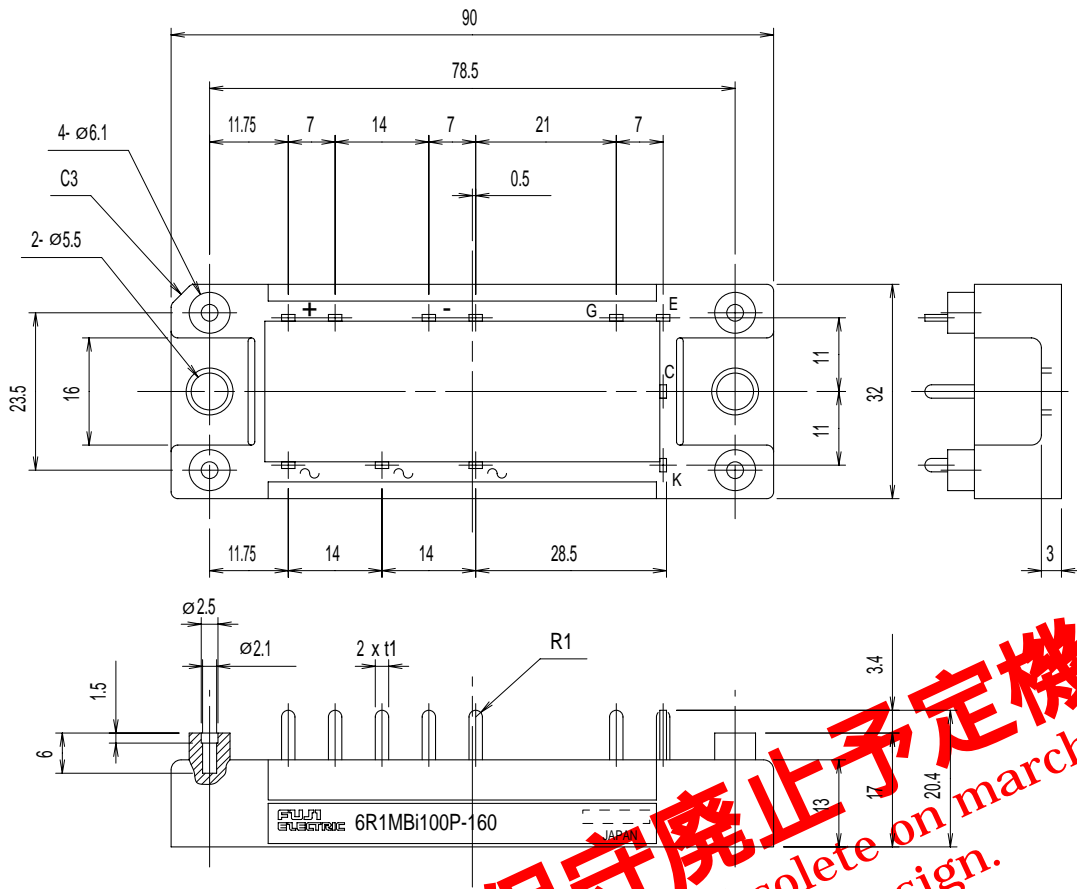
2007年... 保守厚  
This product is scheduled be  
Not recommend for

07.

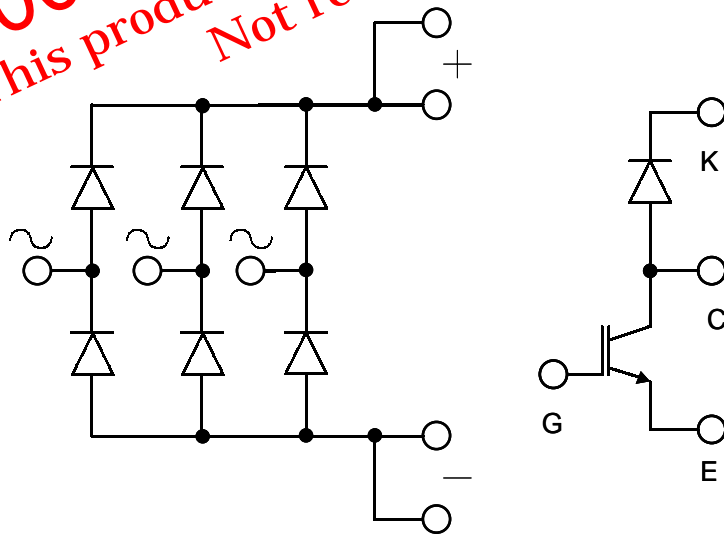


2007年3月 保守廃止予定機種  
 This product is scheduled to be obsolete on march 2007.  
 Not recommend for new design.

■ Outline Drawings, mm



■ Equivalent Circuit Schematic



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