

IGBT MODULE (L series)**■ Features**

- High Speed Switching
- Low Saturation Voltage
- Voltage Drive
- Isolated Package

■ Applications

- Ideal for Chopper Application
- AC and DC Servo Drive Supply
- Uninterruptible Power Supply
- Industrial Machines, such as Welding Machines

■ Maximum Ratings and Characteristics**● Absolute Maximum Ratings**

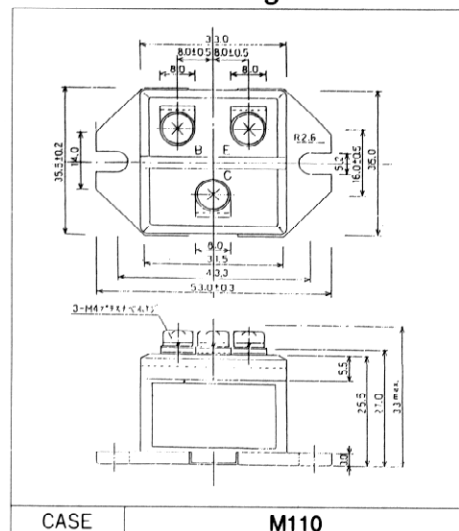
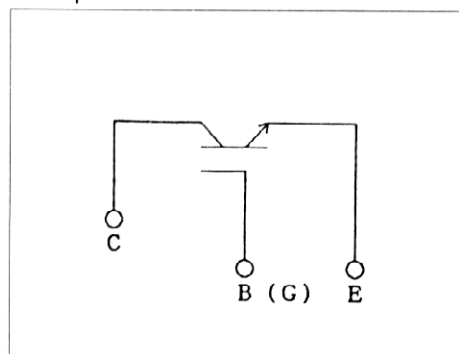
Items		Symbols	Ratings	Units
Collector-Emitter Voltage		V _{CES}	600	V
Gate-Emitter Voltage		V _{GES}	±20	V
Collector Current	Continuous	I _C	75	A
	1ms	I _C pulse	150	
Max. Power Dissipation		P _C	300	W
Operating Temperature		T _J	+150	°C
Storage Temperature		T _{stg}	-40 to +125	°C
Isolation Voltage	AC. 1min.	V _{is}	2500	V
Screw Torque	Mounting *1		1.7	N•m
	Terminals *1		1.7	

● Electrical Characteristics (T_J=25°C unless otherwise specified)

Items	Symbols	Test Conditions	Min.	Typ.	Max.	Units
Zero Gate Voltage Collector Current	I _{CES}	V _{GE} =0V V _{CE} =600V T _C =25°C			1.0	mA
Gate-Emitter Leakage Current	I _{GES}	V _{CE} =0V V _{GE} =±20V			100	nA
Gate-Emitter Threshold Voltage	V _{GE (th)}	V _{CE} =20V I _C =75mA	3.0		6.0	V
Collector-Emitter Saturation Voltage	V _{CE (sat)}	V _{GE} =15V I _C =75A		2.7	3.5	V
Input Capacitance	C _{ies}	V _{GE} =0V		7100		pF
Output Capacitance	C _{oes}	V _{CE} =10V		—		
Reverse Transfer Capacitance	C _{res}	f=1MHz		—		
Turn-on Time	t _{on}	V _{CC} =300V		0.4	0.8	μs
	t _r	I _C =75A		0.3	0.6	
Turn-off Time	t _{off}	V _{GE} =±15V		0.6	1.0	
	t _f	R _G =33Ω		0.2	0.35	

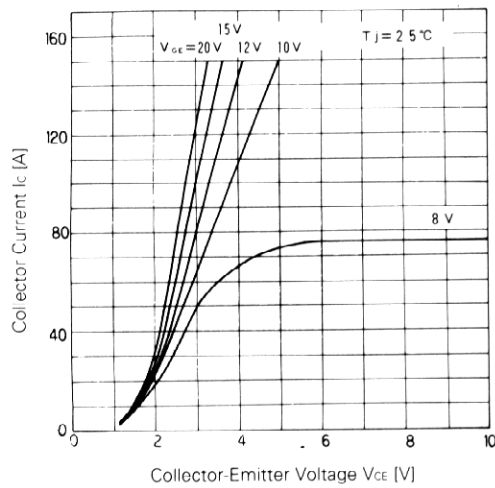
t_{on}, t_r: Resistive Load t_{off}, t_f: Inductive Load**● Thermal Characteristics**

Items	Symbols	Test Conditions	Min.	Typ.	Max.	Units
Thermal Resistance	R _{th (j-c)}	IGBT			0.417	°C/W
	R _{th (c-f)}	With Thermal compound		0.06		

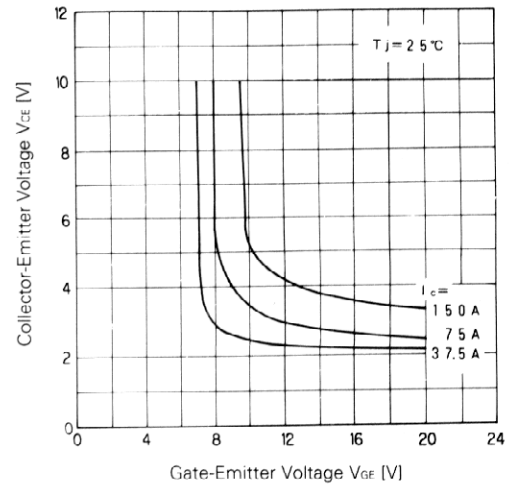
■ Outline Drawings**■ Equivalent Circuit Schematic**

*1 Recommendable Value 1.3 ~ 1.7 N•m (M4)

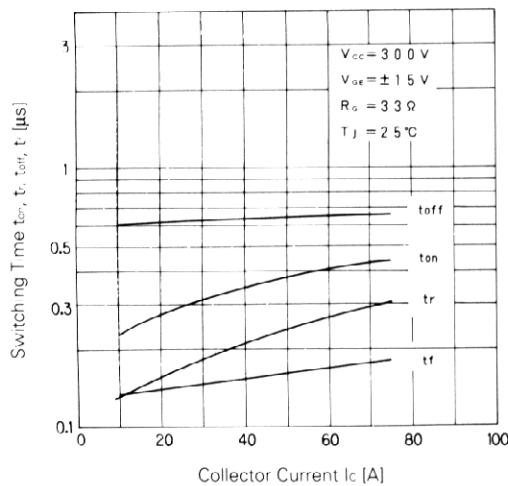
■ Characteristics



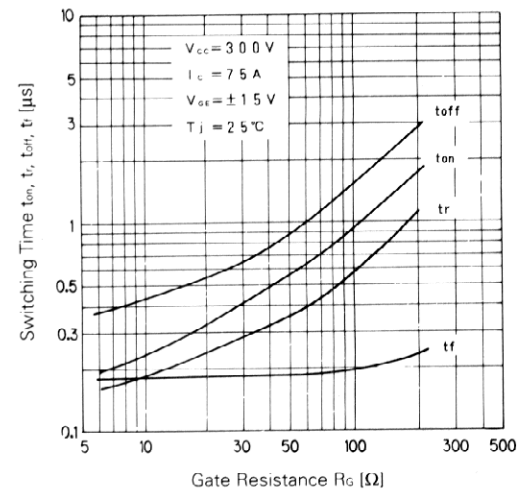
Collector Current vs. Collector-Emitter Voltage



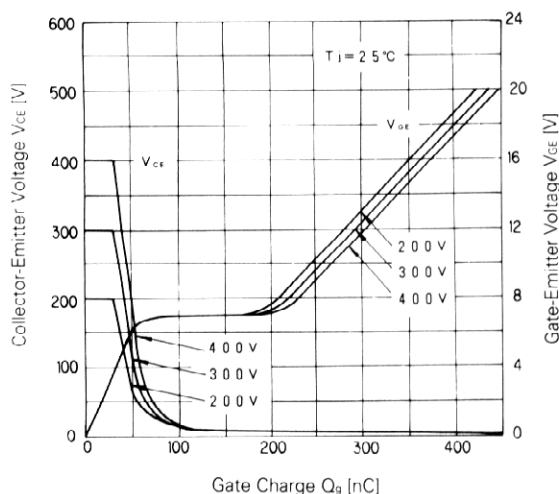
Collector-Emitter Voltage vs. Gate-Emitter Voltage



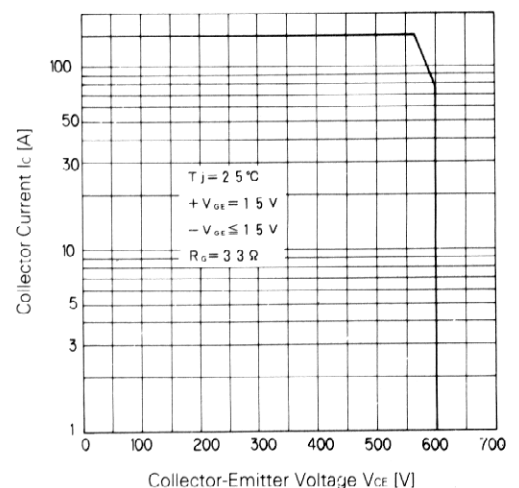
Switching Time



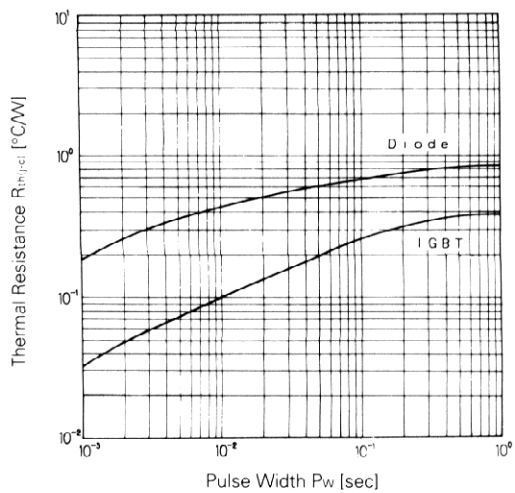
Switching Time-Gate Resistance



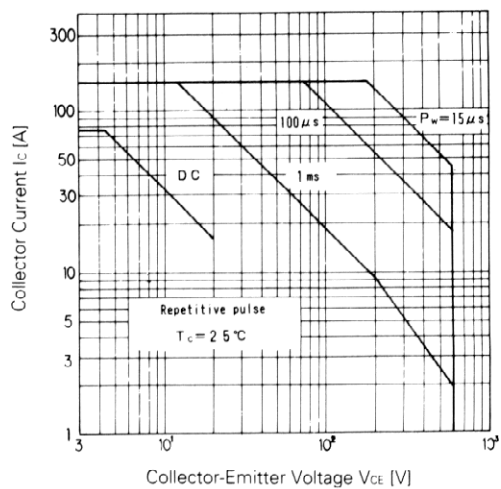
Dynamic Input Characteristic



Reverse Biased Safe Operating Area



Transient Thermal Resistance



Safe Operating Area