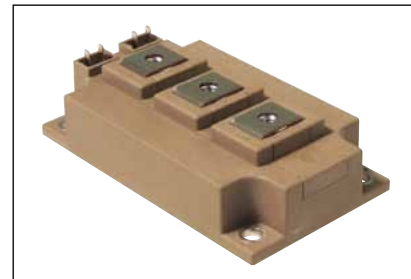


- High speed switching
- Voltage drive
- Low Inductance module structure

- Inverter for Motor Drive
- AC and DC Servo Drive Amplifier
- Uninterruptible Power Supply
- Industrial machines, such as Welding machines



	V_{CES}		1200	V
	V_{GES}		± 20	V
	I_C	Continuous	$T_c=100^\circ\text{C}$ $T_c=25^\circ\text{C}$	200 240
	I_C pulse	1ms		400
	$-I_C$			200
	$-I_C$ pulse	1ms		400
	P_C	1 device		1110
	T_j			175
	T_{jop}			150
	T_c			125
	T_{stg}			-40 ~ +125
	V_{iso}	AC : 1min.		2500
	-			6.0
	-			5.0

Note *1: All terminals should be connected together during the test.

Note *2: Recommendable Value : 3.0-6.0 Nm (M5 or M6) (c)

Note *3: Recommendable Value : 2.5-5.0 Nm (M6)

		$c = 200\text{mA}$		6.0	6.5	7.0
	$V_{CE(sat)}$ (terminal)	$V_{GE} = 15\text{V}$ $I_C = 200\text{A}$	$T_j=25^\circ\text{C}$	-	1.95	2.40
			$T_j=125^\circ\text{C}$	-	2.25	-
			$T_j=150^\circ\text{C}$	-	2.30	-
	$V_{CE(sat)}$ (chip)		$T_j=25^\circ\text{C}$	-	1.75	2.15
			$T_j=125^\circ\text{C}$	-	2.05	-
			$T_j=150^\circ\text{C}$	-	2.10	-
	C_{ies}	$V_{CE} = 10\text{V}, V_{GE} = 0\text{V}, f = 1\text{MHz}$		-	18	-
	t_{on}	$V_{CC} = 600\text{V}$		-	0.60	-
	t_r	$I_C = 200\text{A}$		-	0.20	-
	$t_r (i)$	$V_{GE} = \pm 15\text{V}$		-	0.05	-
	t_{off}	$R_G = 2.7$		-	0.80	-
	t_f	$T_j = 150^\circ\text{C}$		-	0.08	-
	V_F (terminal)	$V_{GE} = 0\text{V}$ $I_F = 200\text{A}$	$T_j=25^\circ\text{C}$	-	1.85	2.35
			$T_j=125^\circ\text{C}$	-	2.00	-
			$T_j=150^\circ\text{C}$	-	1.95	-
	V_F (chip)		$T_j=25^\circ\text{C}$	-	1.70	2.15
			$T_j=125^\circ\text{C}$	-	1.85	-
			$T_j=150^\circ\text{C}$	-	1.80	-
	t_{rr}	$I_F = 200\text{A}$		-	0.15	-

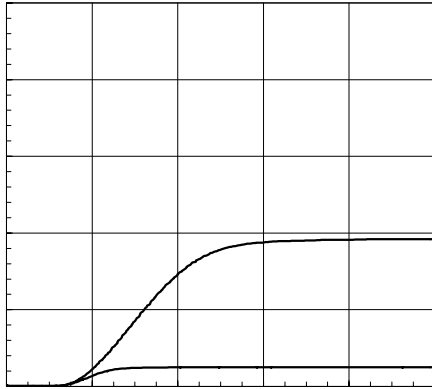
	$R_{th(j-c)}$	IGBT	-	-	0.135	°C/W
		FWD	-	-	0.200	
	$R_{th(c-f)}$	with Thermal Compound	-	0.0250	-	

Note *4: This is the value which is defined mounting on the additional cooling fn with thermal compound.

= 1200V--2.0 mA



Collector current vs. Collector-Emitter voltage (typ.)
T_j= 25°C / chip



Collector current vs. Collector-Emitter voltage (typ.)
T_j= 150°C / chip

Collector current vs. Collector-Emitter voltage (typ.)
V_{GE}= 15V / chip

Collector-Emitter voltage vs. Gate-Emitter voltage (typ.)
T_j= 25°C / chip

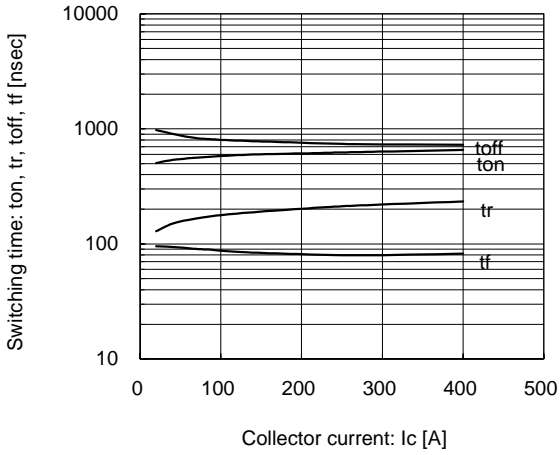
Gate Capacitance vs. Collector-Emitter Voltage (typ.)
V_{GE}= 0V, f= 1MHz, T_j= 25°C

Dynamic Gate Charge (typ.)
V_{CC}=600V, I_c=200A, T_j= 25°C

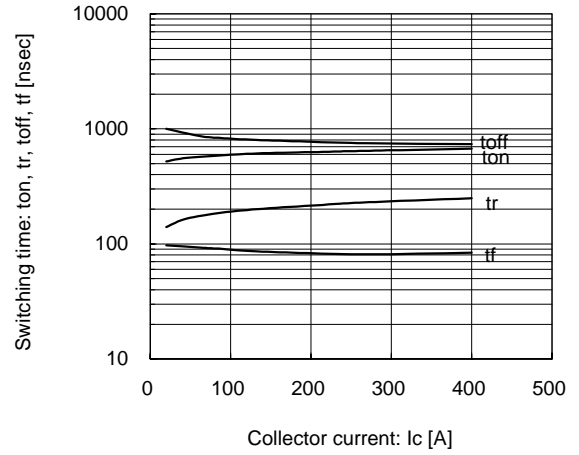
Gate Capacitance: Cies, Coes, Cres [nF]

Collector-Emitter voltage: V_{CE} [V]

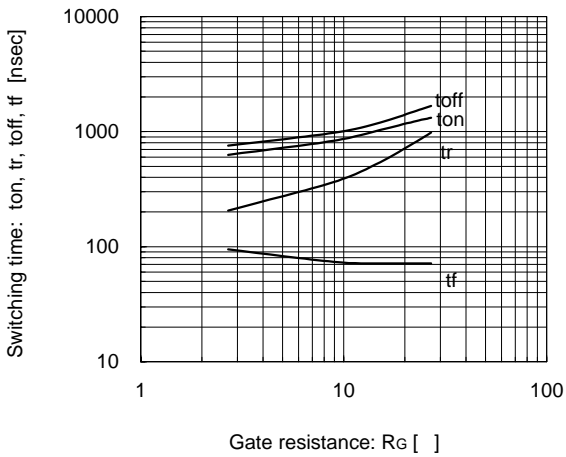
Switching time vs. Collector current (typ.)
 $V_{CC}=600V, V_{GE}=\pm 15V, R_G=2.7\ \Omega, T_J=125^\circ C$



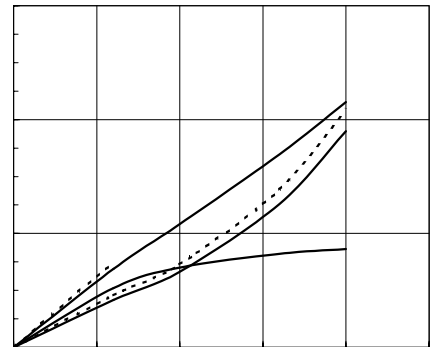
Switching time vs. Collector current (typ.)
 $V_{CC}=600V, V_{GE}=\pm 15V, R_G=2.7\ \Omega, T_J=150^\circ C$



Switching time vs. Gate resistance (typ.)
 $V_{CC}=600V, I_c=200A, V_{GE}=\pm 15V, T_J=125^\circ C$

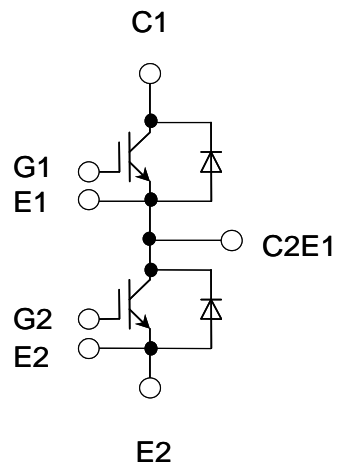
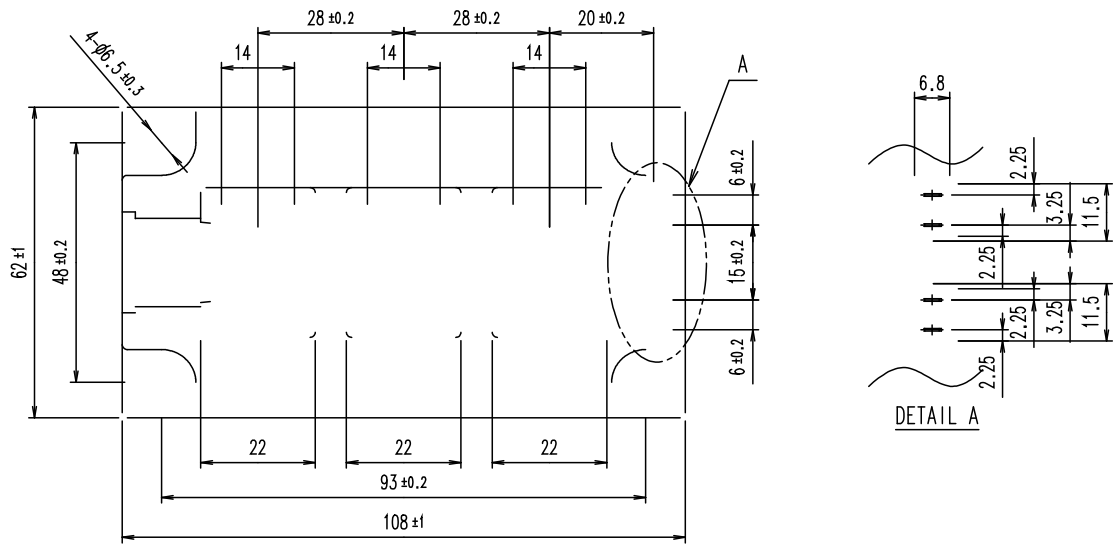


Switching loss vs. Collector current (typ.)
 $V_{CC}=600V, V_{GE}=\pm 15V, R_G=2.7\ \Omega, T_J=125^\circ C, 150^\circ C$



Switching loss vs. Gate resistance (typ.)
 $V_{CC}=600V, I_c=200A, V_{GE}=\pm 15V, T_J=125^\circ C, 150^\circ C$

Reverse bias safe operating area (max.)
 $+V_{GE}=15V, -V_{GE}=15V, R_G=2.7\ \Omega, T_J=150^\circ C$



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