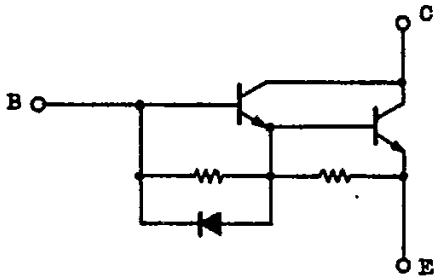




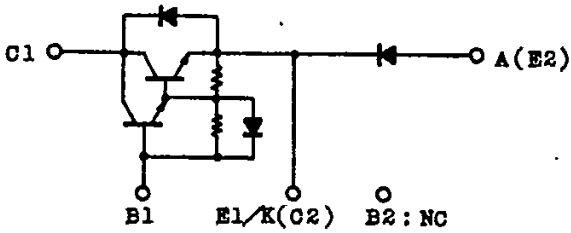
# SEMICONDUCTOR

## TECHNICAL DATA

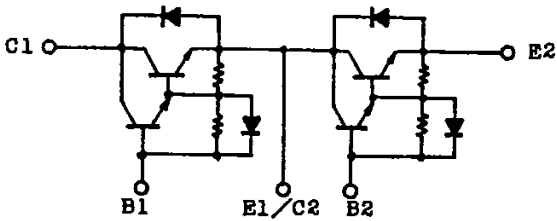
MG30G1BL3  
 MG30G1JL1  
 MG30G2CL3  
 MG30G2DL1  
 MG30G6EL1



MG30G1BL3

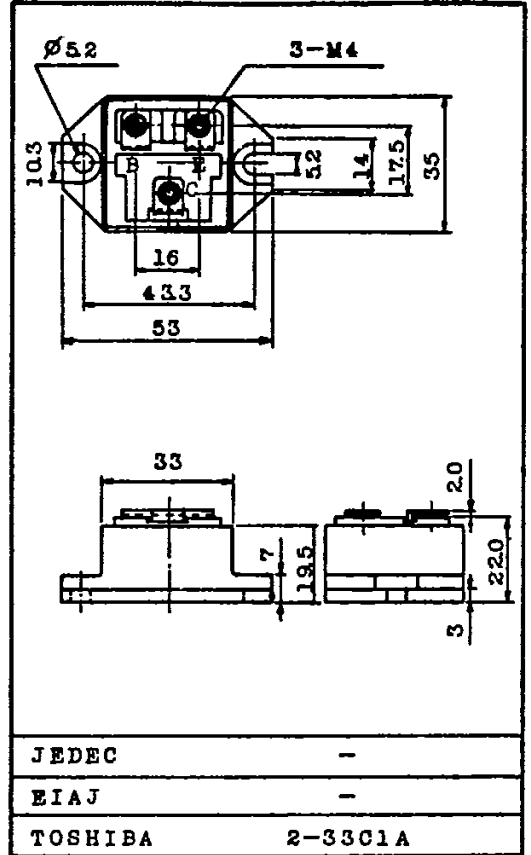


MG30G1JL1

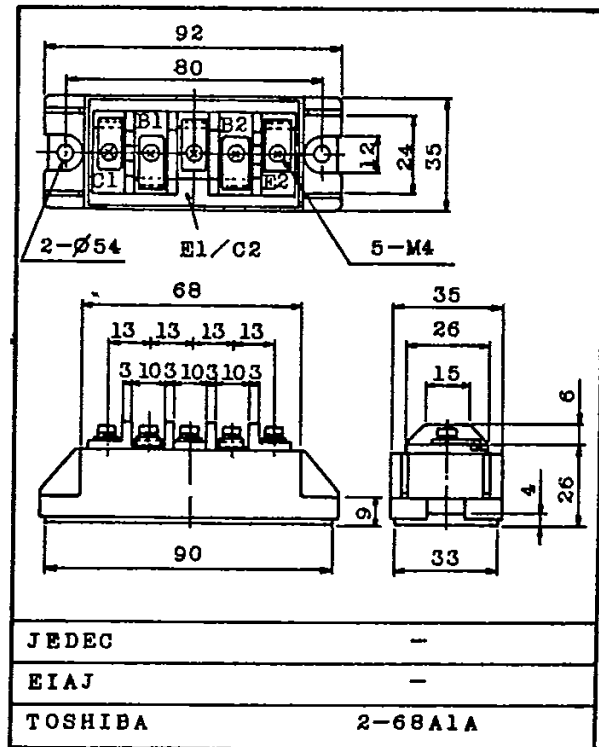


MG30G2CL3

Unit in mm



Weight : 86g



Weight : 210g

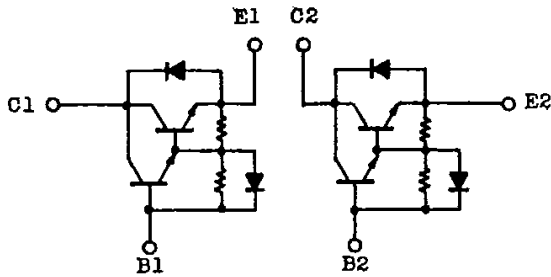


# SEMICONDUCTOR

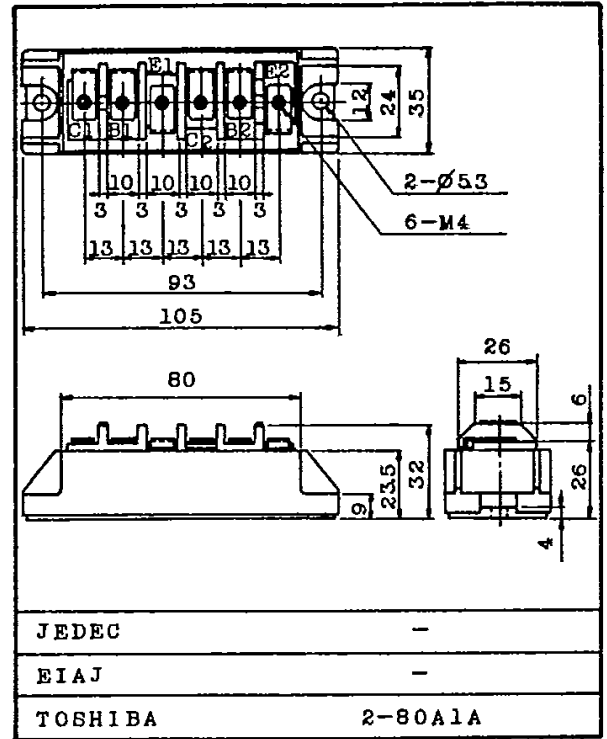
## TECHNICAL DATA

MG30G1BL3  
 MG30G1JL1  
 MG30G2CL3  
 MG30G2DL1  
 MG30G6EL1

### MG30G2DL1

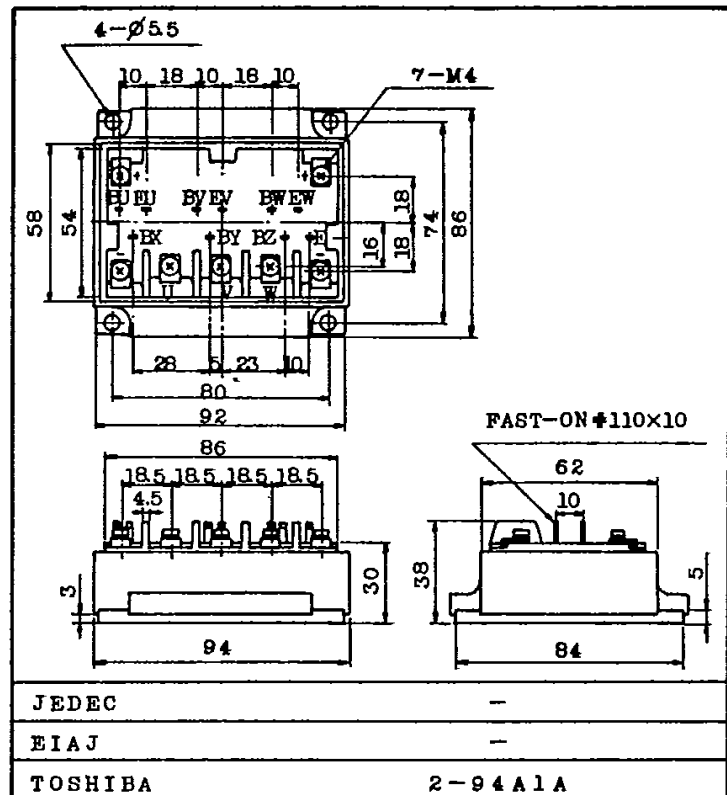
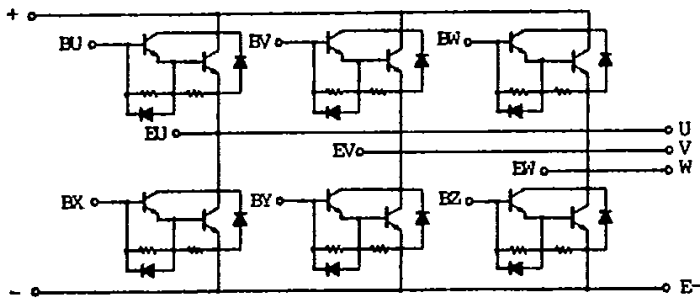


Unit in mm



Weight : 245g

### MG30G6EL1

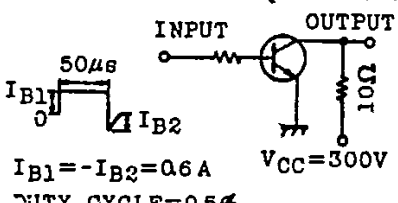


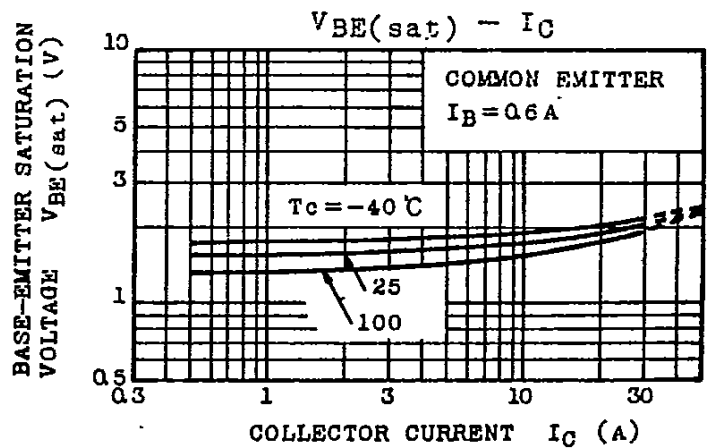
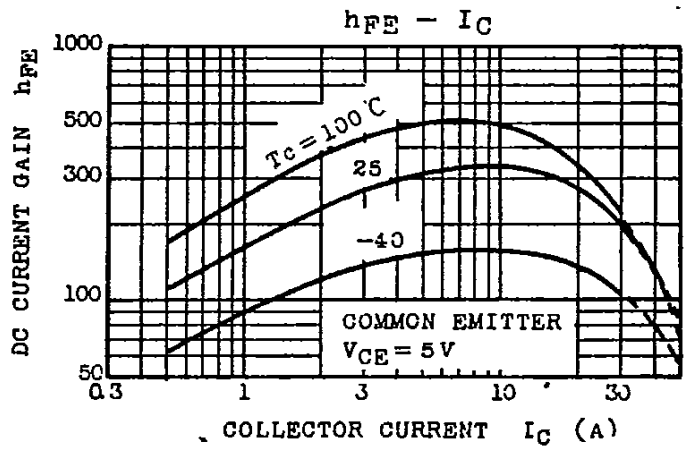
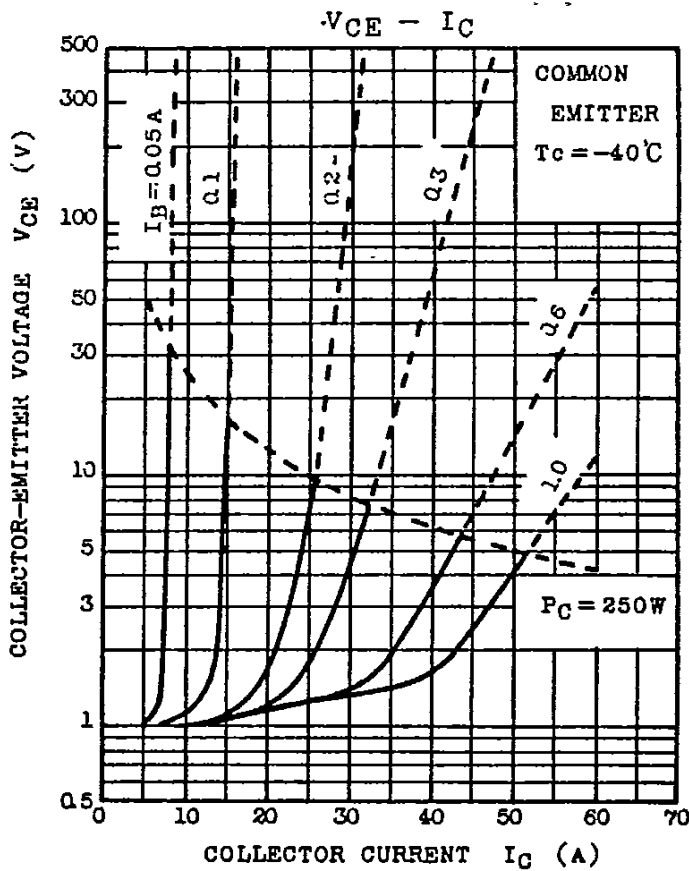
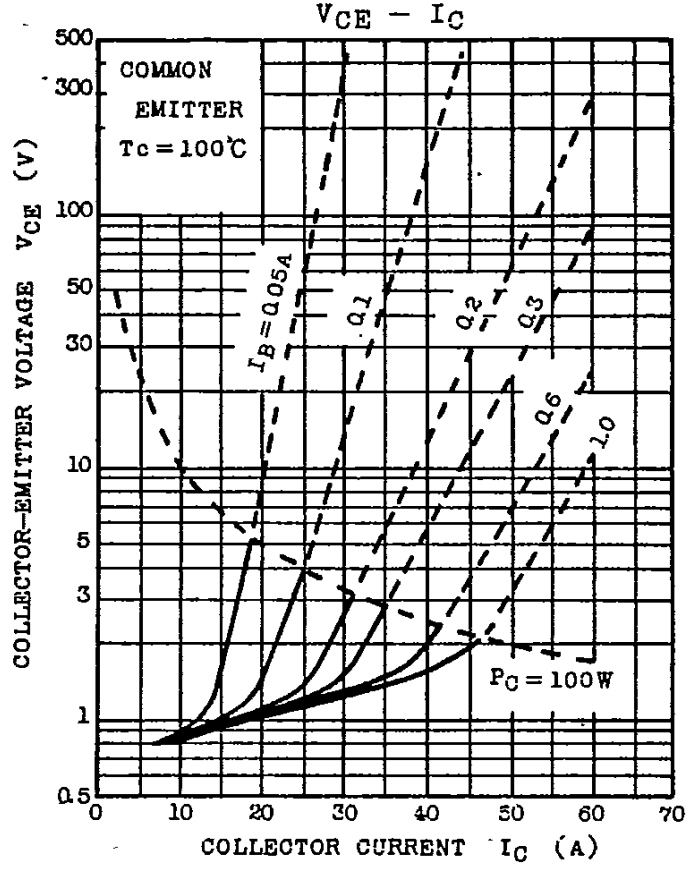
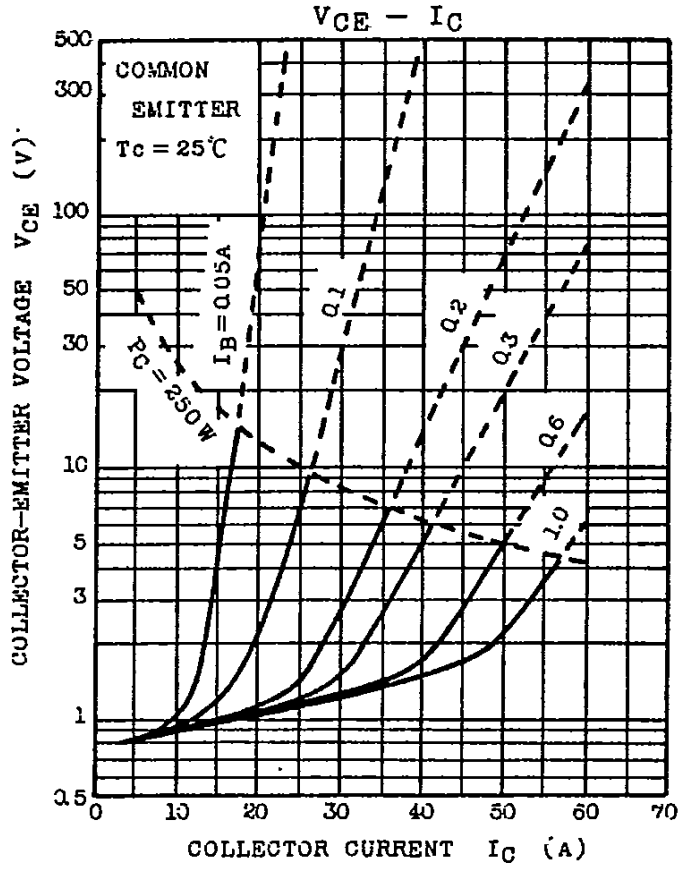
Weight : 600g

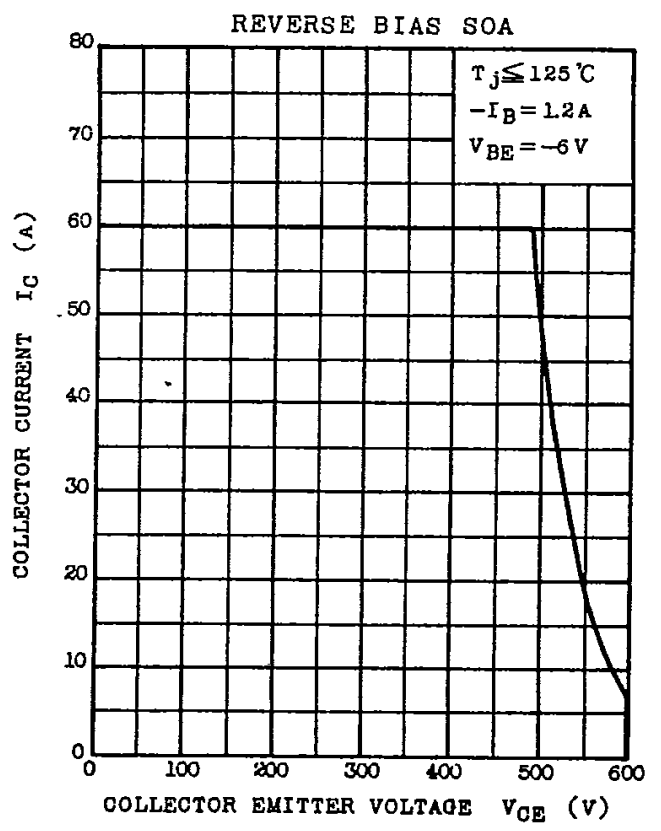
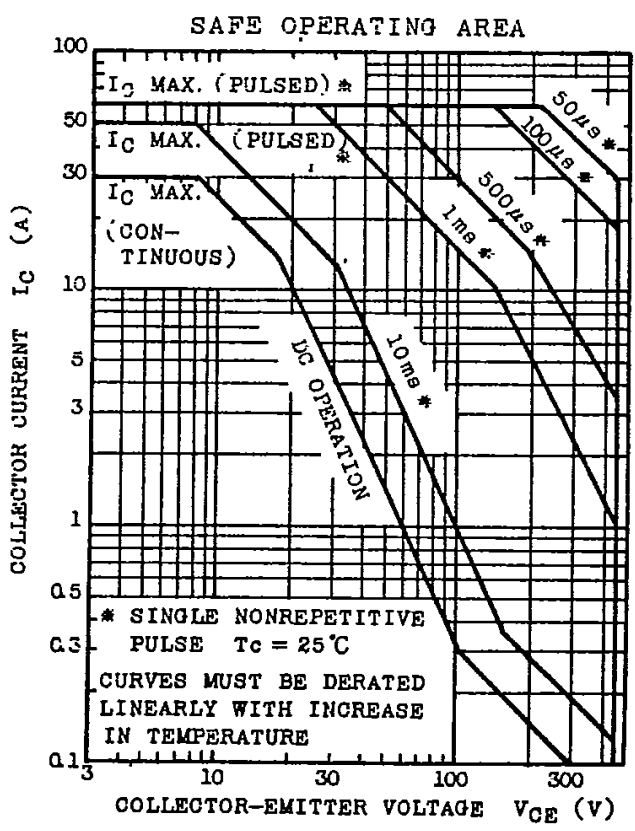
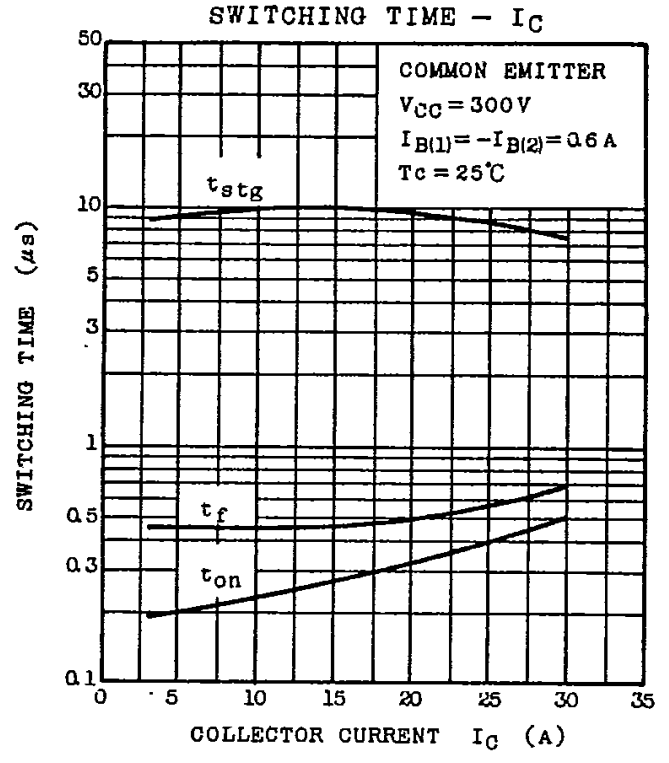
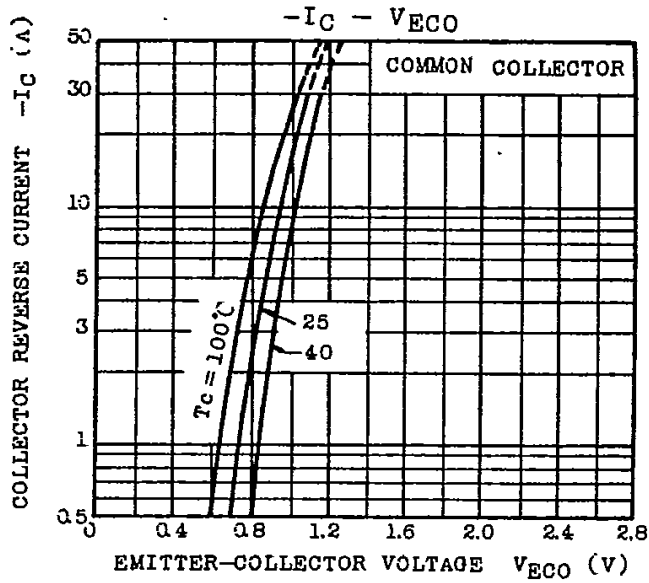
**MAXIMUM RATINGS (Ta=25°C)**

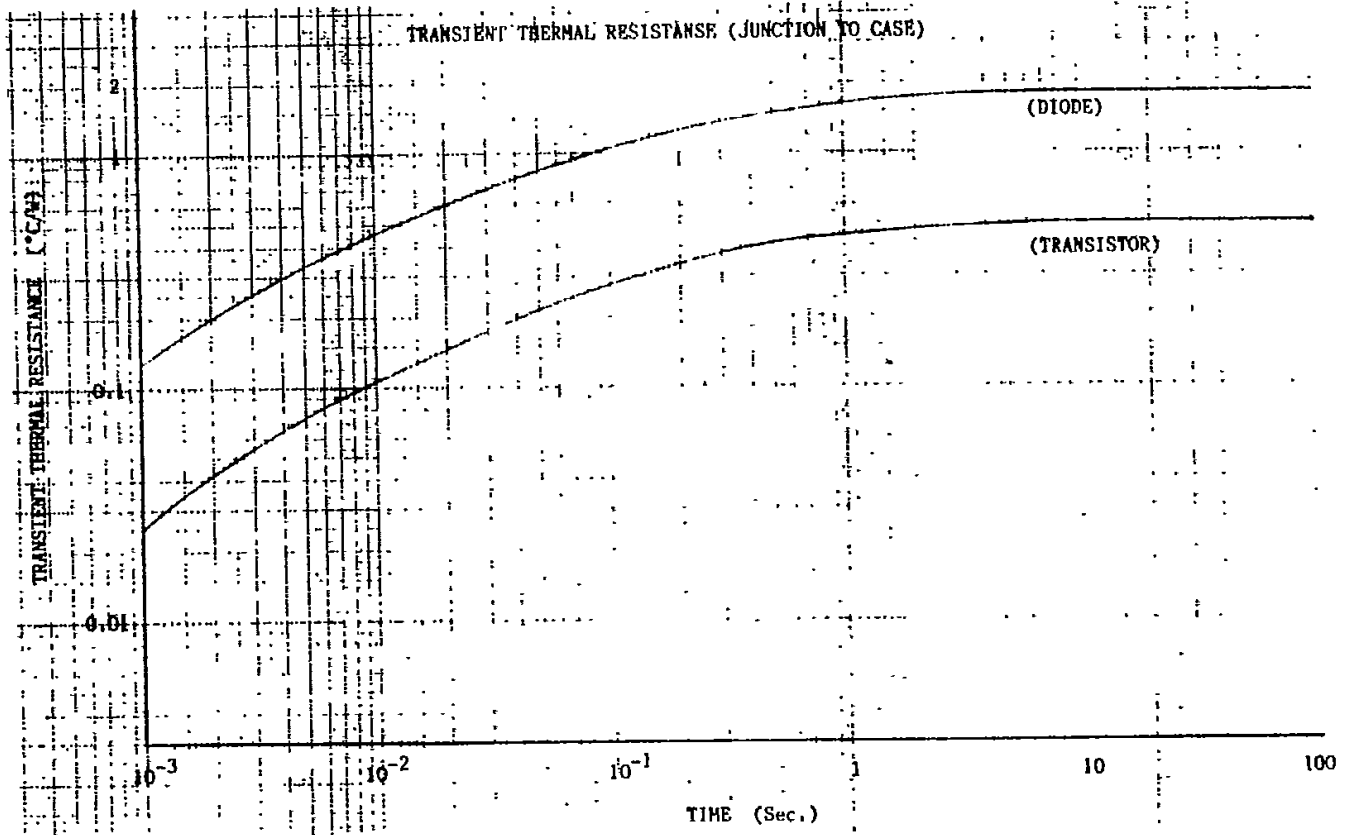
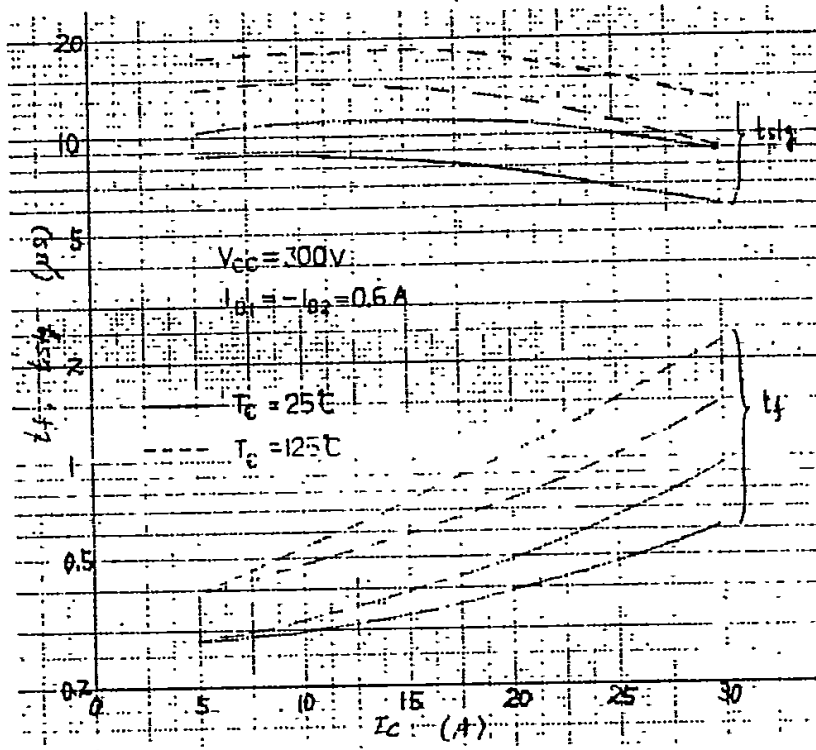
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V <sub>CB0</sub>	600	V
Collector-Emitter Sustaining Voltage		V <sub>CEX(SUS)</sub>	600	V
Collector-Emitter Sustaining Voltage		V <sub>CEO(SUS)</sub>	450	V
Emitter-Base Voltage		V <sub>EBO</sub>	6	V
Collector Current	DC	I <sub>C</sub>	30	A
	lms	I <sub>CP</sub>	60	A
Forward Current	DC	I <sub>F</sub>	30	A
	lms	I <sub>FM</sub>	60	A
Base Current		I <sub>B</sub>	2	A
Collector Power Dissipation (T <sub>c</sub> =25°C)		P <sub>C</sub>	250	W
Junction Temperature		T <sub>j</sub>	150	°C
Storage Temperature Range		T <sub>stg</sub>	-40 ~ 125	°C
Isolatic. Voltage		V <sub>Isol</sub>	2500 (AC 1 Minute)	V
Screw Torque (Terminal/Mounting)		-	20/30	kg·cm

**ELECTRICAL CHARACTERISTICS (Ta=25°C)**

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I <sub>CB0</sub>	V <sub>CB</sub> =600V, I <sub>E</sub> =0	-	-	1.0	mA
Emitter Cut-off Current		I <sub>EBO</sub>	V <sub>EB</sub> =6V, I <sub>C</sub> =0	-	-	200	mA
Collector-Emitter Sustaining Voltage		V <sub>CEO(SUS)</sub>	I <sub>C</sub> =0.5A, L=40mH	450	-	-	V
DC Current Gain		h <sub>FE</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =30A	100	-	-	
Collector-Emitter Saturation Voltage		V <sub>CE(sat)</sub>	I <sub>C</sub> =30A, I <sub>B</sub> =0.6A	-	-	2.0	V
Base-Emitter Saturation Voltage		V <sub>BE(sat)</sub>		-	-	2.5	V
Switching Time	Turn-on Time	t <sub>on</sub>	 <p>INPUT OUTPUT 50µs 10Ω 100pF I<sub>B1</sub> I<sub>B2</sub> V<sub>CC</sub>=300V</p>	-	-	1.0	µs
	Storage Time	t <sub>stg</sub>		-	-	12	
	Fall Time	t <sub>f</sub>		-	-	2.0	
Forward Voltage		V <sub>F</sub>	I <sub>F</sub> =30A, I <sub>B</sub> =0	-	-	1.5	V
Reverse Recovery Time		t <sub>rr</sub>	I <sub>F</sub> =30A, V <sub>BE</sub> =-3V di/dt=100A/µs	-	-	2.0	µs
Thermal Resistance		R <sub>th(j-c)</sub>	Transistor	-	-	0.5	°C/W
			Diode	-	-	1.8	







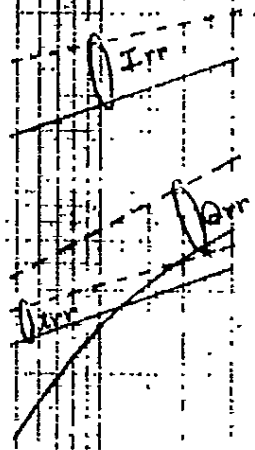
$T_a = 25^\circ\text{C}$   
 $T_c = 125^\circ\text{C}$   
 Typical Values

$I_{rr}, I_{rr}, Q_{rr}$  v.s  $I_F$

$\odot dI/dt = 100\text{A}/\mu\text{s}$   
 $V_{BE} = 0.7\text{V}$

$I_{rr} (100\mu\text{s}), I_{rr} (1\mu\text{s}), Q_{rr} (\mu\text{s})$

5 10 15 20 25 30 35 40 45 50



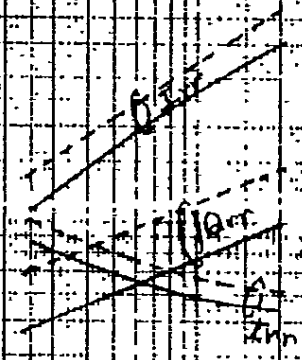
$I_F$  (A)

$I_{rr}, I_{rr}, Q_{rr}$  v.s  $dI/dt$

$\odot I_F = 30\text{A}$   
 $V_{BE} = 0.7\text{V}$

$I_{rr} (100\mu\text{s}), I_{rr} (1\mu\text{s}), Q_{rr} (\mu\text{s})$

5 10 15 20 25 30 35 40 45 50



$dI/dt$  (A/ $\mu\text{s}$ )