MG20G6EL2

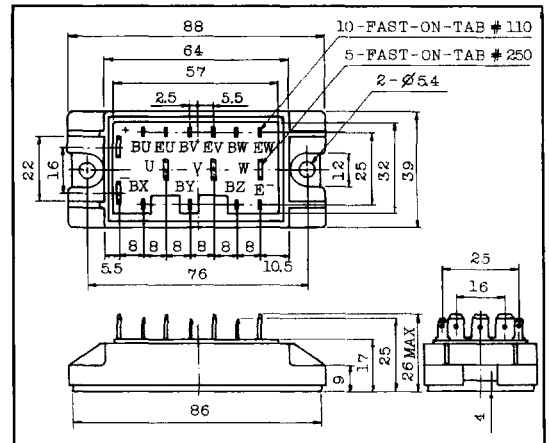
GTR MODULE
SILICON NPN TRIPLE DIFFUSED TYPE

HIGH POWER SWITCHING APPLICATIONS.
MOTOR CONTROL APPLICATIONS.

FEATURES:

. The Collector is Isolated from Case.
. 6 Darlington Transistors are Built-in to 1 Package.
. With Built-in Free Wheeling Diodes.
. High DC Current Gain
  : h_{FE}=100(Min.)(I_C=20A)
. Low Saturation Voltage
  : $V_{CE(sat)}$=2V(Max.)(I_C=20A)
. High Speed : t_f=3μs(Max.)(I_C=20A)

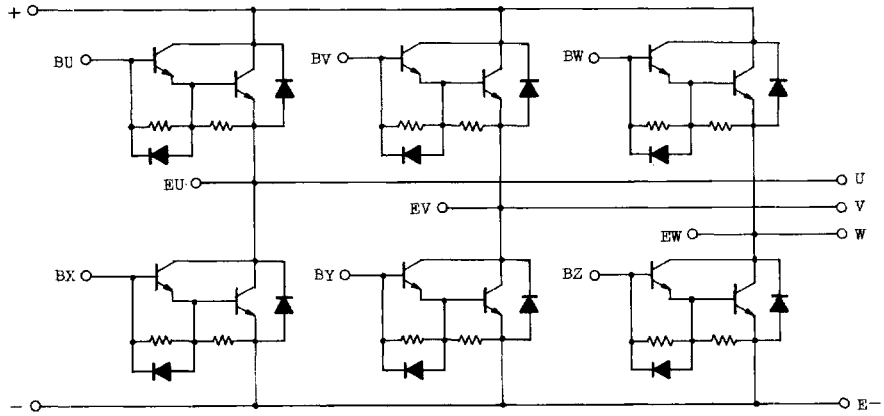
Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-64A1A

Weight : 180g

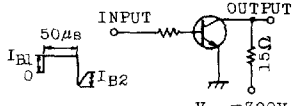
EQUIVALENT CIRCUIT



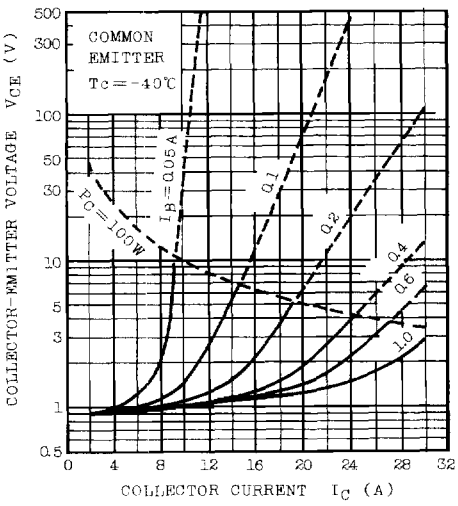
MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	600	V
Collector-Emitter Sustaining Voltage		$V_{CEX(SUS)}$	600	V
Collector-Emitter Sustaining Voltage		$V_{CEO(SUS)}$	400	V
Emitter-Base Voltage		V_{EBO}	6	V
Collector Current	DC	I_C	20	A
	1ms	I_{CP}	40	A
Forward Current	DC	I_F	20	A
	1ms	I_{FM}	40	A
Base Current		I_B	2	A
Collector Power Dissipation (Tc=25°C)		P_C	100	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	-40 ~ 125	°C
Isolation Voltage		V_{Isol}	2500 (AC 1 Minute)	V
Screw Torque		-	30	kg·cm

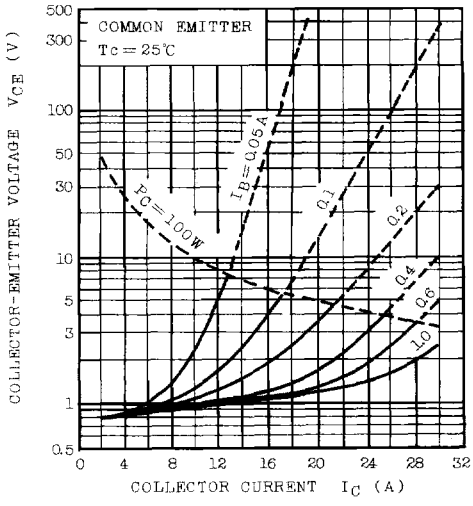
ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=600V, I_E=0	-	-	1.0	mA
Emitter Cut-off Current		I_{EBO}	V_{EB}=6V, I_C=0	-	-	100	mA
Collector-Emitter Sustaining Voltage		$V_{CEO(SUS)}$	I_C=0.5A, L=40mH	400	-	-	V
DC Current Gain		hFE	V_{CE}=5V, I_C=20A	100	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=20A, I_B=0.5A	-	1.3	2.0	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$		-	2.0	2.5	V
Switching Time	Turn-on Time	t_{on}		-	0.5	1.0	μs
	Storage Time	tstg		-	5	12	
	Fall Time	t_f	I_{B1}=-I_{B2}=0.5A DUTY CYCLE=0.5%	-	1.2	3.0	
Forward Voltage		V_F	I_F=20A, I_B=0	-	1.2	1.7	V
Reverse Recovery Time		t_{rr}	I_F=20A, V_{BE}=-2V di/dt=60A/μs	-	-	0.7	μs
Thermal Resistance		$R_{th(j-c)}$		-	-	1.25	°C/W

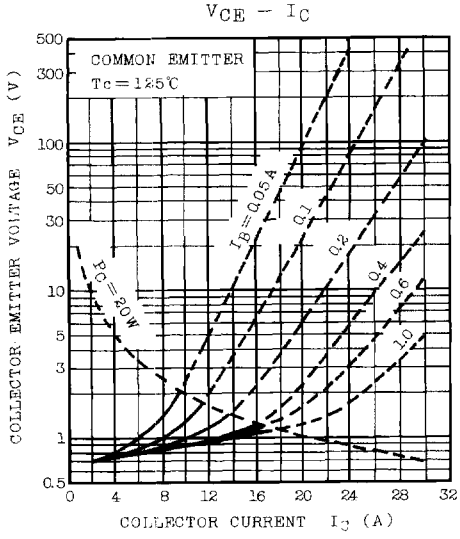
V_{CE} – I_C



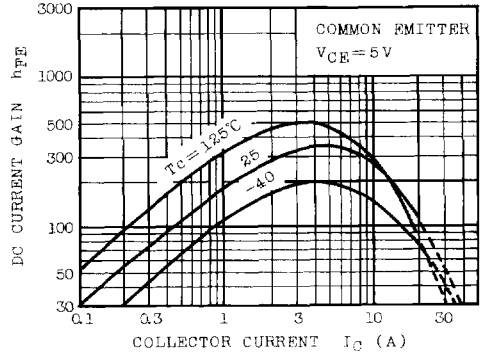
V_{CE} – I_C



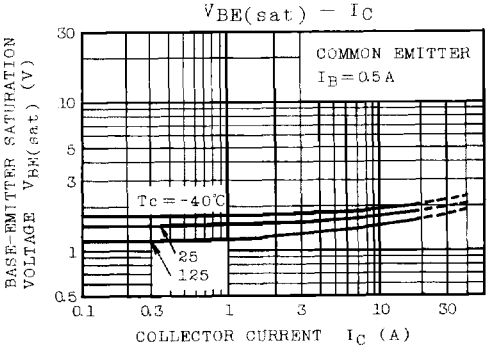
V_{CE} – I_C



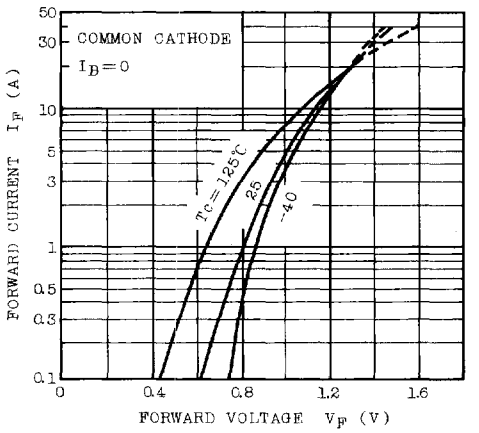
h_{FE} – I_C



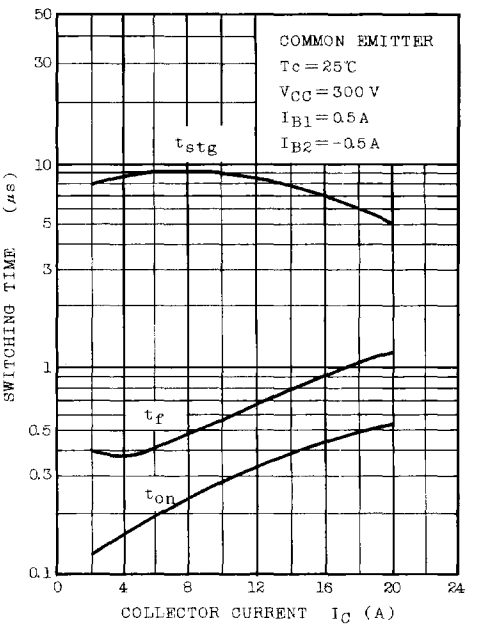
$V_{BE(sat)}$ – I_C



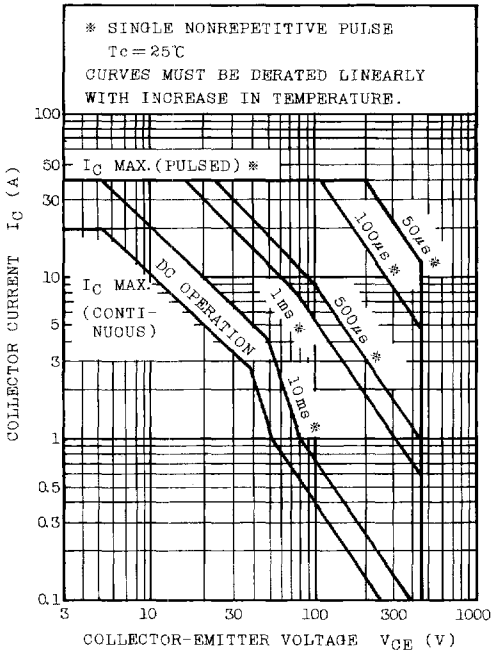
$I_F - V_F$



SWITCHING TIME — I_C



SAFE OPERATING AREA



REVERSE BIAS SOA

