

9097250 TOSHIBA (DISCRETE/OPTO)

90D 16203

DT-33-35



SEMICONDUCTOR

TECHNICAL DATA

TOSHIBA GTR MODULE

MG15G4GL1 MG15G6EL1

SILICON NPN TRIPLE DIFFUSED TYPE

HIGH POWER SWITCHING APPLICATIONS.  
MOTOR CONTROL APPLICATIONS.

FEATURES :

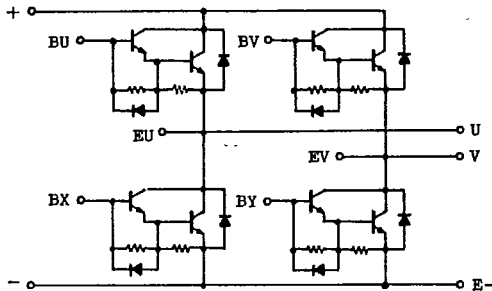
- .The Collector is Isolated from Case
- .4 or 6 Darlingtons including Free Wheeling Diodes are Built-in to 1 package
- .High DC Current Gain

:  $h_{FE}=100(\text{Min.}) (I_C=15A)$

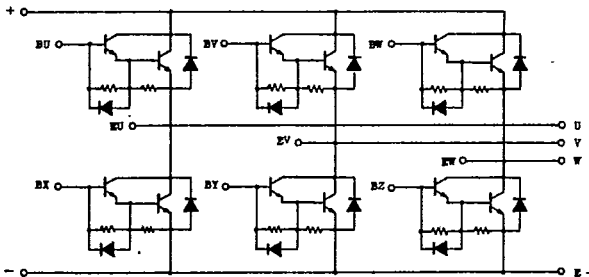
- .Low Saturation Voltage

:  $V_{CE(\text{sat})}=2V(\text{Max.}) (I_C=15A)$

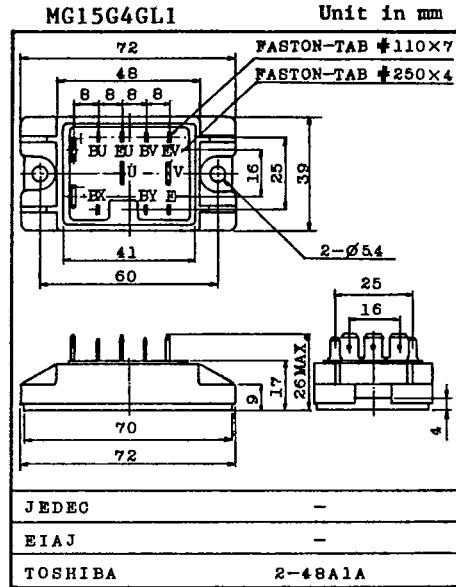
EQUIVALENT CIRCUIT



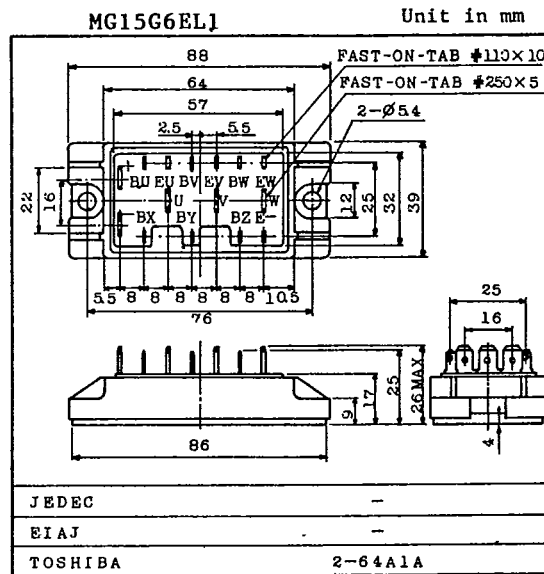
MG15G4GL1



MG15G6EL1



Weight : 140g



Weight : 180g

TOSHIBA CORPORATION

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M G 1 5 G 4 G L 1

M G 1 5 G 6 E 1 1

## MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V <sub>CBO</sub>	600	V
Collector-Emitter Voltage		V <sub>CEO</sub>	600	V
Collector-Emitter Sustaining Voltage		V <sub>CEO(SUS)</sub>	450	V
Emitter-Base Voltage		V <sub>EB0</sub>	6	V
Collector Current	DC	I <sub>C</sub>	15	A
	1ms	I <sub>C</sub>	30	A
	DC	-I <sub>C</sub>	15	A
Base Current		I <sub>B</sub>	1	A
Collector Power Dissipation (T <sub>c</sub> =25°C)		P <sub>C</sub>	100	W
Junction Temperature		T <sub>j</sub>	150	°C
Storage Temperature Range		T <sub>stg</sub>	-40 ~ 125	°C
Isolation Voltage		V <sub>isol</sub>	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 <sub>CBO</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	-	-	100	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> =15A	100	-	-	
Collector-Emitter Saturation Voltage		V <sub>CE(sat)</sub>	I <sub>C</sub> =15A, I <sub>B</sub> =0.4A	-	-	2.0	V
Base-Emitter Saturation Voltage		V <sub>BE(sat)</sub>		-	-	2.5	V
Emitter-Collector Voltage		V <sub>ECO</sub>	I <sub>E</sub> =15A, I <sub>B</sub> =0	-	-	1.6	V
Reverse Recovery Time		t <sub>rr</sub>	-I <sub>C</sub> =15A, V <sub>EB</sub> =2V, V <sub>CE</sub> =300V	-	-	0.7	μs
Collector Output Capacitance		C <sub>ob</sub>	V <sub>CB</sub> =50V, I <sub>E</sub> =0, f=1MHz	-	400	-	pF
Switching Time	Turn-on Time	t <sub>on</sub>		-	-	1.0	μs
	Storage Time	t <sub>stg</sub>		-	-	12	
	Fall Time	t <sub>f</sub>		I <sub>B1</sub> =-I <sub>B2</sub> =0.4A DUTY CYCLE=95%	-	-	
Thermal Resistance (Junction to Case)		R <sub>th(j-c)</sub>		-	-	1.25	°C/W

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GT1A2

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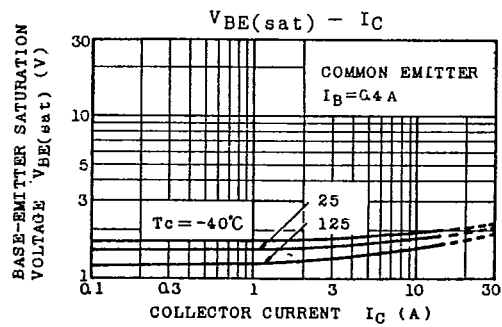
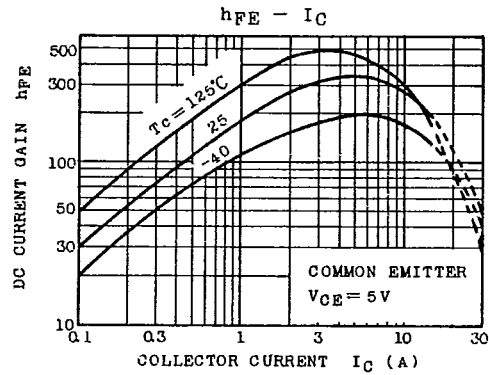
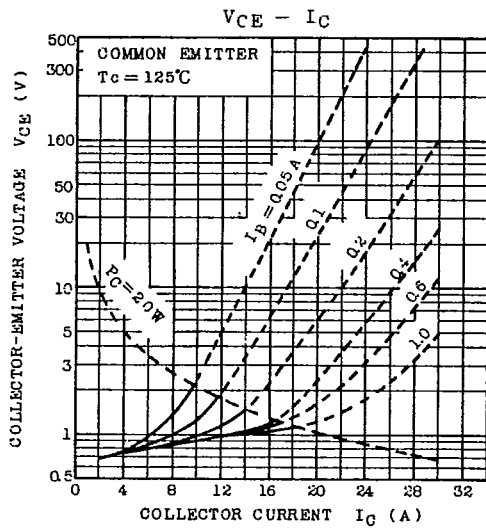
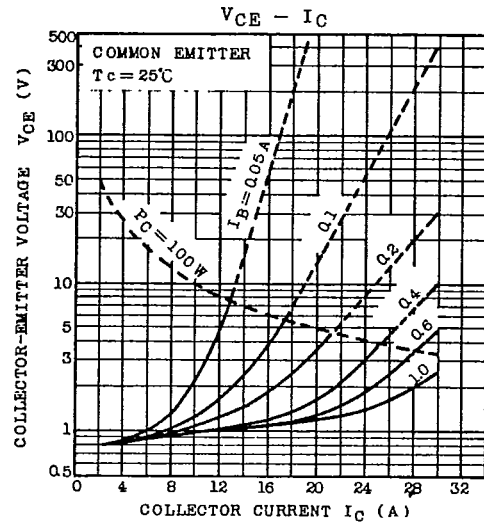
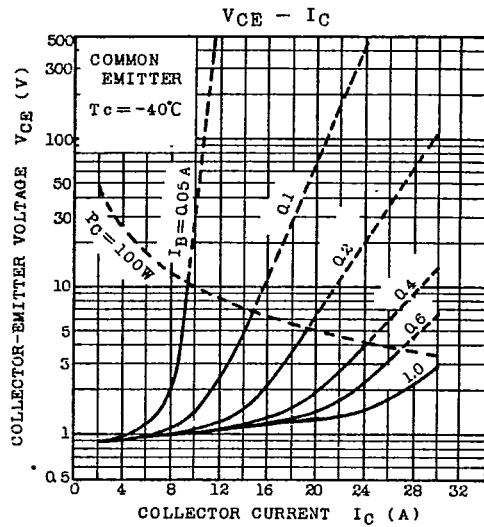


SEMICONDUCTOR

TECHNICAL DATA

MG15G4GL1

MG15G6BL1



TOSHIBA CORPORATION

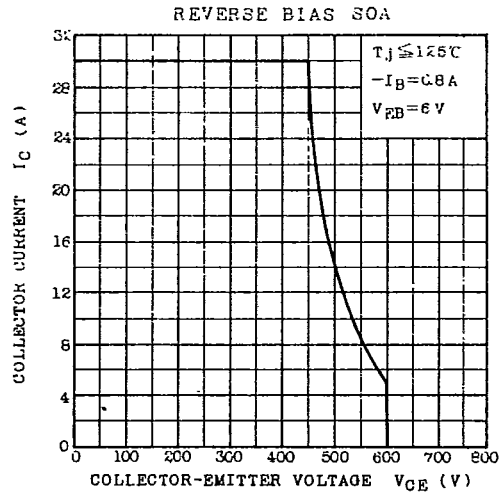
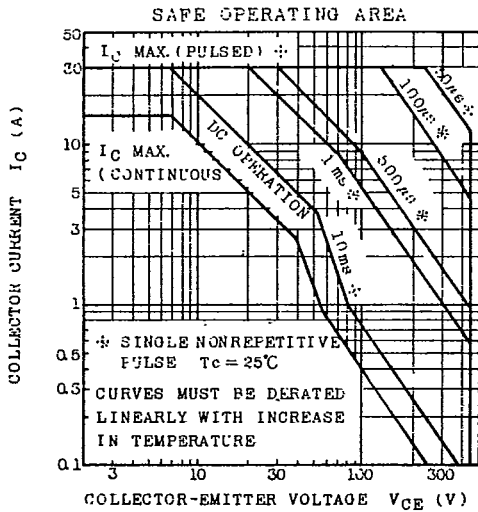
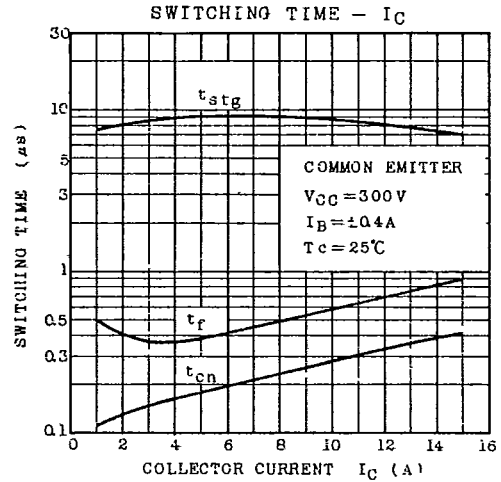
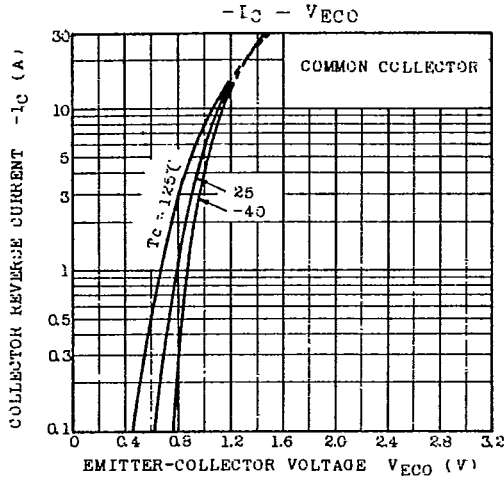
GT1A2



SEMICONDUCTOR

TECHNICAL DATA

M G 1 5 G 4 G L 1  
M G 1 5 G 6 E L 1



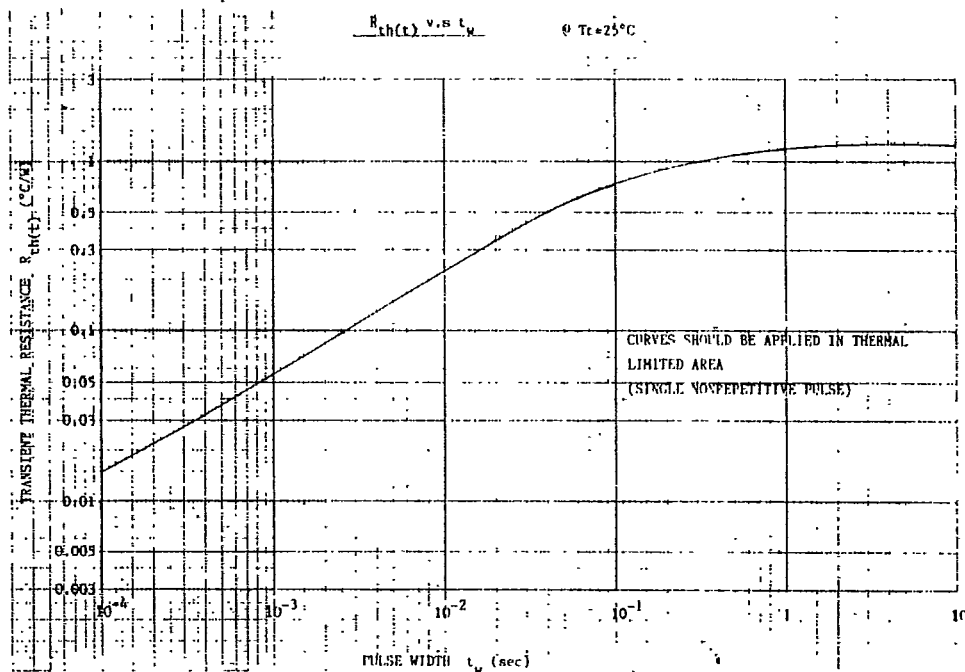
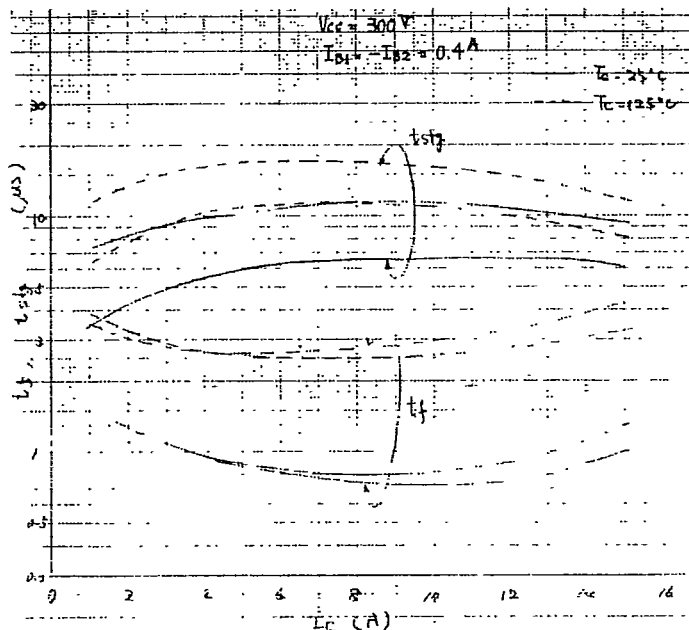
TOSHIBA CORPORATION



SEMICONDUCTOR

TECHNICAL DATA

MG1EG4GLI  
MG15G6ELI

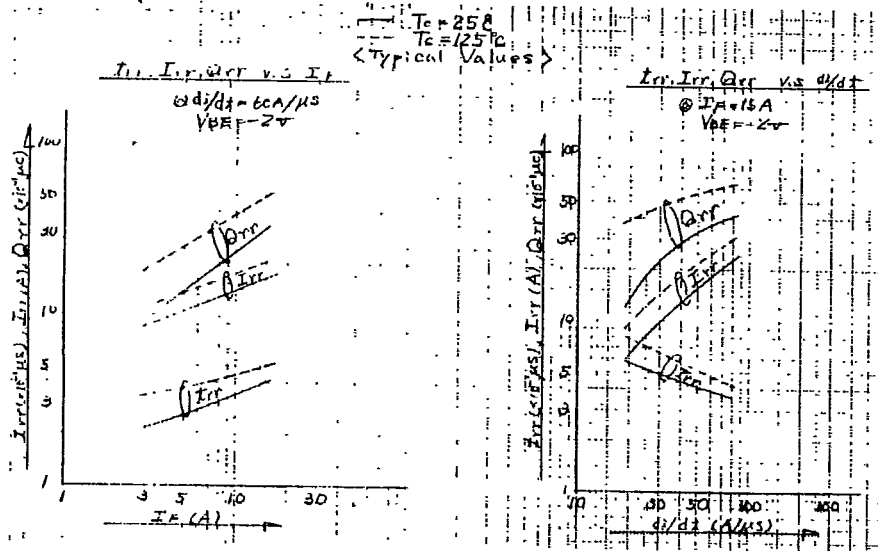


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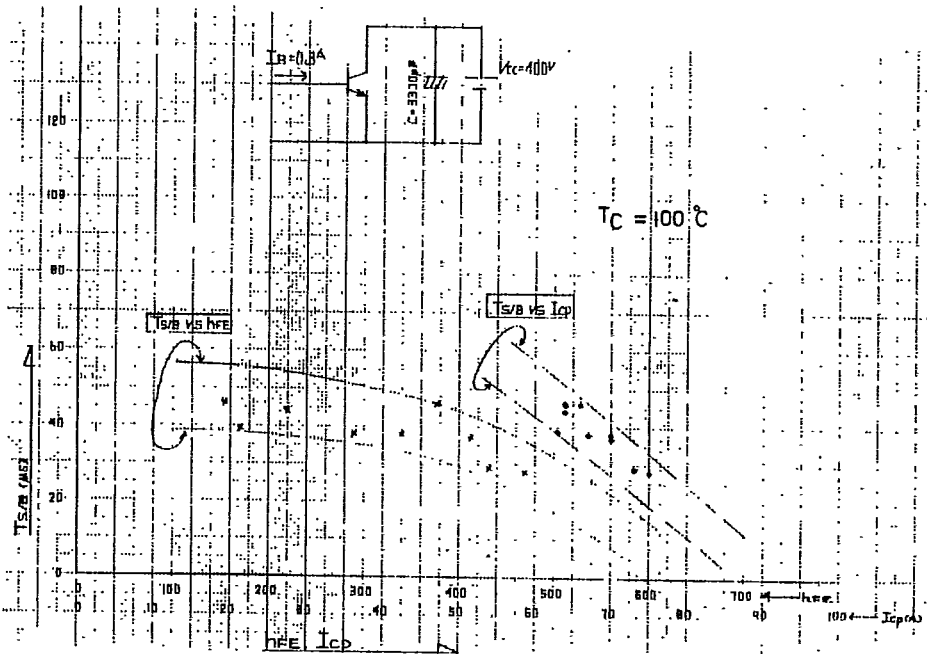


**SEMICONDUCTOR**  
TECHNICAL DATA

MG15G4GLI  
MG15G6ELI



SHORT CIRCUIT



TOSHIBA CORPORATION

This datasheet has been downloaded from:

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Datasheets for electronic components.