TOSHIBA INSULATED GATE BIPOLAR TRANSISTOR

SILICON N CHANNEL TYPE

GT20D101

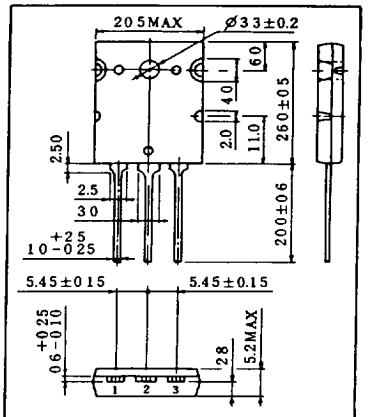
T 39-31

TOSHIBA (DISCRETE/OPTO)

HIGH POWER AMPLIFIER APPLICATION

- High Breakdown Voltage : V_{CES}=250V (MIN.)
- High Forward Transfer Admittance : $|Y_{fe}|$ =10S (TYP.)
- Complementary to GT20D201
- Enhancement-Mode

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-21F1C

Weight : 9.75g

MAXIMUM RATINGS (Ta=25°C)

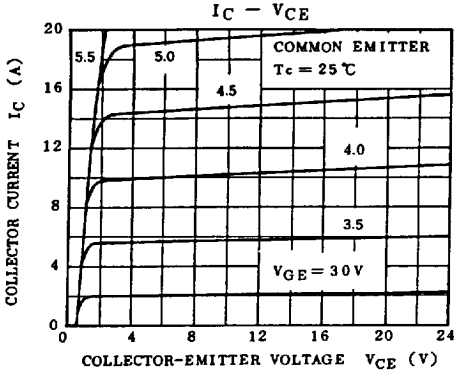
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V_{CES}	250	V
Gate-Emitter Voltage	V_{GES}	±20	V
Collector Current	I_C	20	A
Latch Up Current	I_L	60	A
Collector Power Dissipation (Tc=25°C)	P_C	180	W
Junction Temperature	Tj	150	°C
Storage Temperature Range	Tstg	-55~150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

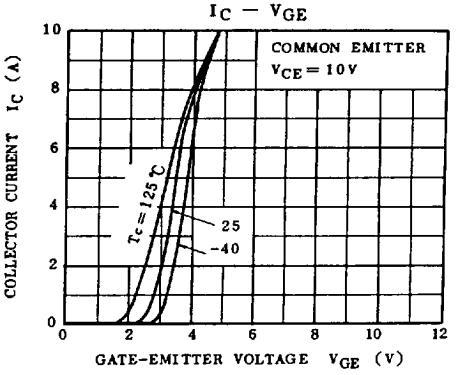
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CES}	V_{CE}=250V, V_{GE}=0	-	-	50	μA
Gate Leakage Current	I_{GES}	V_{GE}=±20V, V_{CE}=0	-	-	±0.5	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CES}$	I_C=100μA, V_{GE}=0	250	-	-	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=15A, V_{GE}=10V	-	1.5	3.0	V
Gate-Emitter Cut-off Voltage (Note)	$V_{GE(OFF)}$	V_{CE}=10V, I_C=100mA	1.0	-	3.6	V
Forward Transfer Admittance	$\|Y_{fe}\|$	V_{CE}=10V, I_C=1A	-	3	-	S
	$\|Y_{fe}\|$	V_{CE}=10V, I_C=10A	-	10	-	
Input Capacitance	Cies	V_{CE}=10V, V_{GE}=0, f=1MHz	-	1400	-	pF
Output Capacitance	Coes	V_{CE}=10V, V_{GE}=0, f=1MHz	-	400	-	pF
Reverse Transfer Capacitance	Cres	V_{CE}=10V, V_{GE}=0, f=1MHz	-	65	-	pF

(Note) $V_{GE(OFF)}$ Classification O : 1.0~2.4 Y : 2.2~3.6

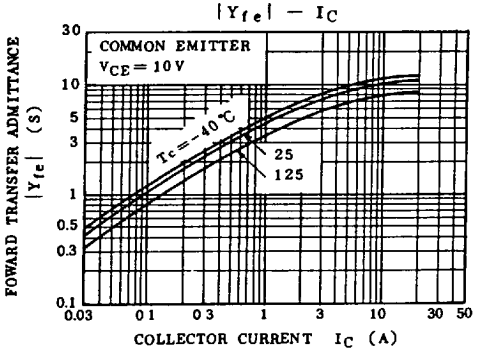
I_C – V_{CE}



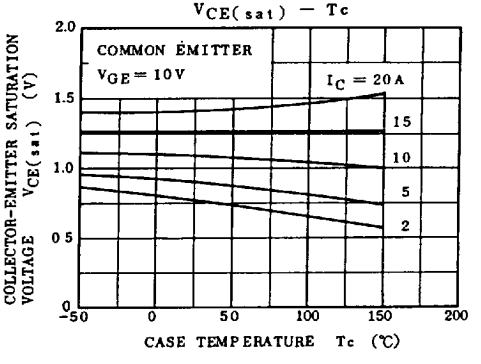
I_C – V_{GE}



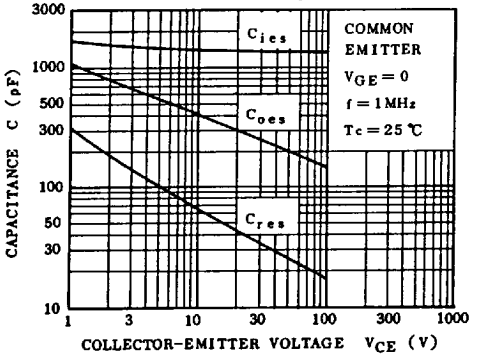
$|Y_{fe}|$ – I_C



$V_{CE(sat)}$ – Tc



C – V_{CE}



P_C – Tc