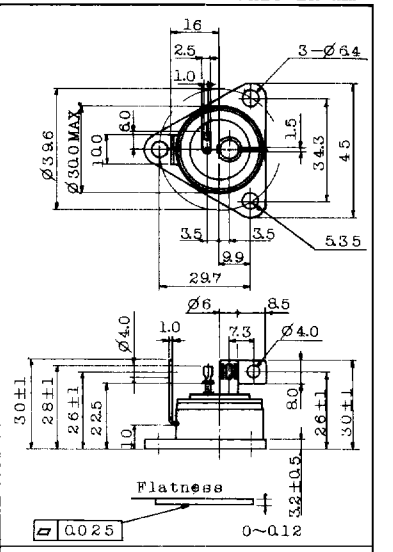
S2861A

HIGH POWER SWITCHING APPLICATION.
DC-AC POWER INVERTER APPLICATION.
MOTOR CONTROL APPLICATION.

FEATURES:

. High Voltage : $V_{CE(SUS)}$ >450V
. Triple Diffused Design
. Darlington Design

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	2-30A1A

Weight : 85g

MAXIMUM RATINGS (Ta=25°C)

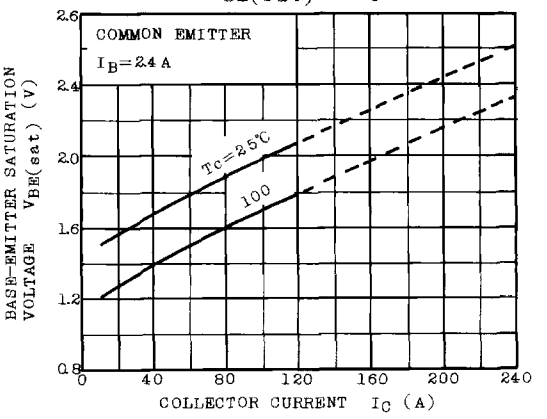
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	600	V
Collector-Emitter Voltage	$V_{CE(SUS)}$	450	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	120	A
Emitter Current	I_E	-120	A
Base Current	I_B	8	A
Thermal Resistance	$R_{th(j-c)}$	0.13	°C/W
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	-55~150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

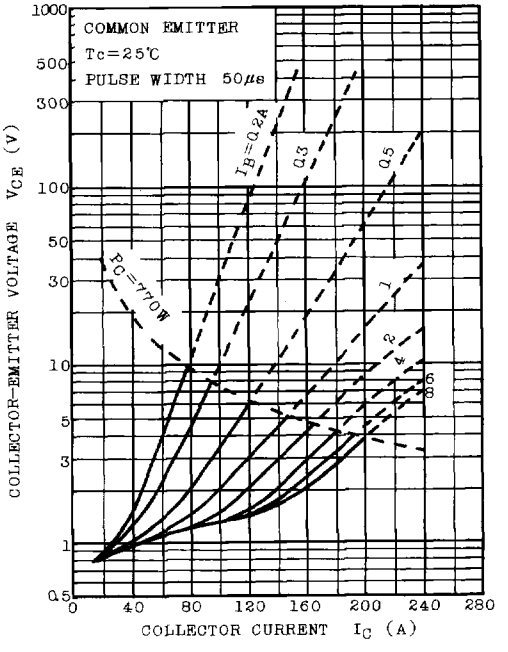
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Forward Current Transfer Ratio		h_{FE}	V_{CE}=5V, I_C=120A	150	-	-	
			V_{CE}=5V, I_C=60A	-	500	-	
Collector-Emitter Sustaining Voltage		$V_{CEO(SUS)}$	I_C=0.5A, L=40mH	450	-	-	V
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=120A, I_B=2.4A (Note)	-	-	2.0	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$		-	-	2.5	V
Collector Cut-off Current		I_{CBO}	V_{CB}=600V, I_E=0	-	-	2	mA
Emitter Cut-off Current		I_{EBO}	V_{EB}=5V, I_C=0	-	-	300	mA
Switching Time	Turn-on Time	t_{on}	I_C=120A, I_{B1}=2.4A $-I_{B2}$=2.4A, V_C=300V	-	3	-	μs
	Storage Time	t_{stg}		-	8	15	μs
	Fall Time	t_f		-	-	4.0	μs

Note : Pulse Test; Pulse Width≦300μs, Duty Cycle≦3%
Thermal Resistance (Case to fin), $R_{th(c-f)}$≒0.07°C/W

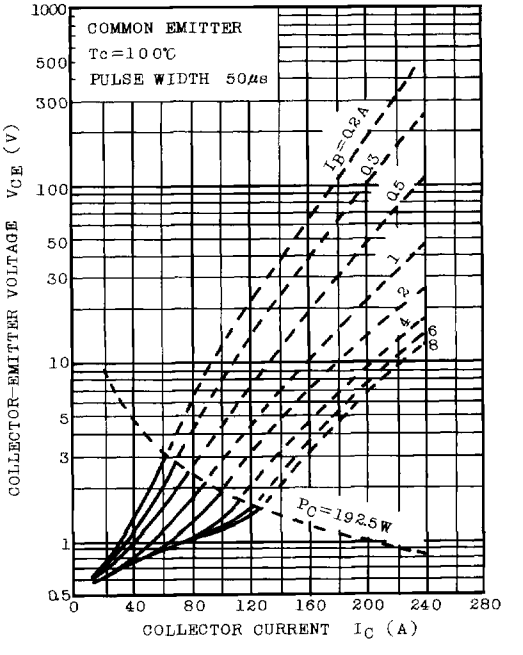
$V_{BE(sat)} - I_C$



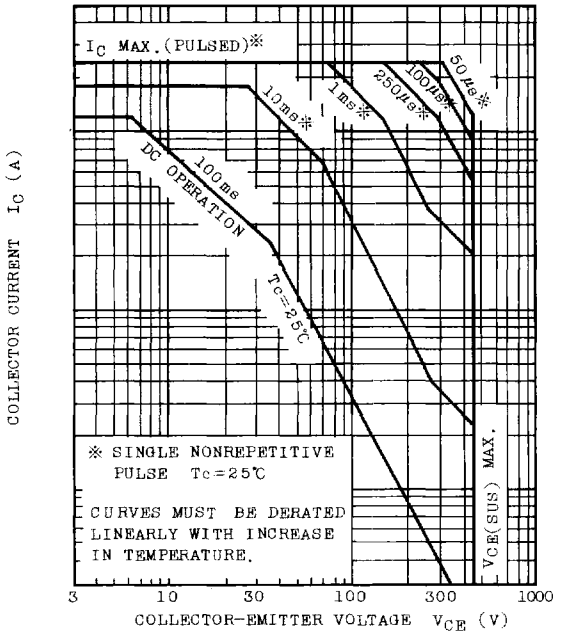
$V_{CE} - I_C$



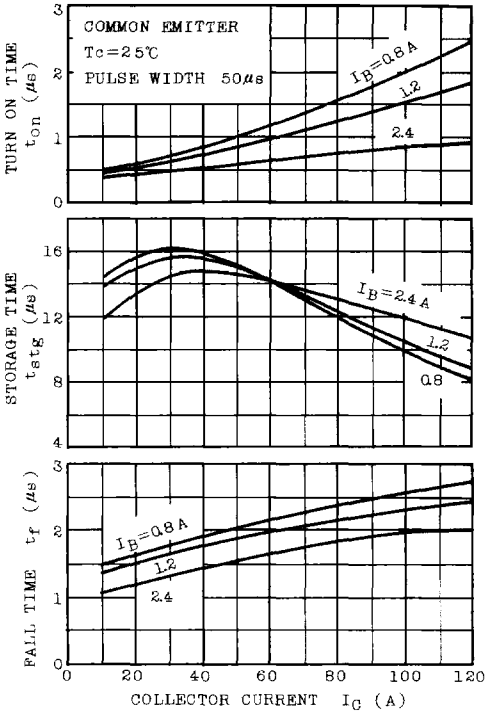
$V_{CE} - I_C$



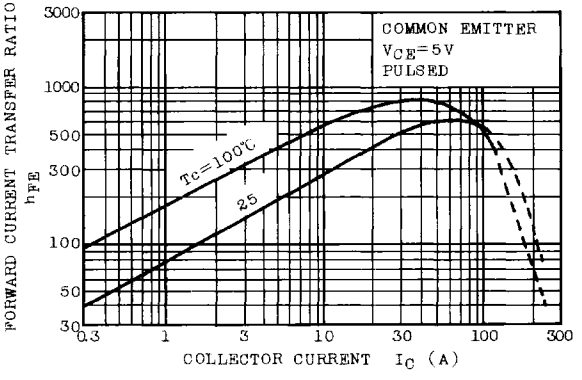
SAFE OPERATING AREA



SWITCHING TIME — I_C



h_{FE} — I_C



TRANSIENT THERMAL IMPEDANCE (JUNCTION TO CASE)