

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07796 D T-33-11

SILICON NPN TRIPLE DIFFUSED MESA TYPE

2SD811

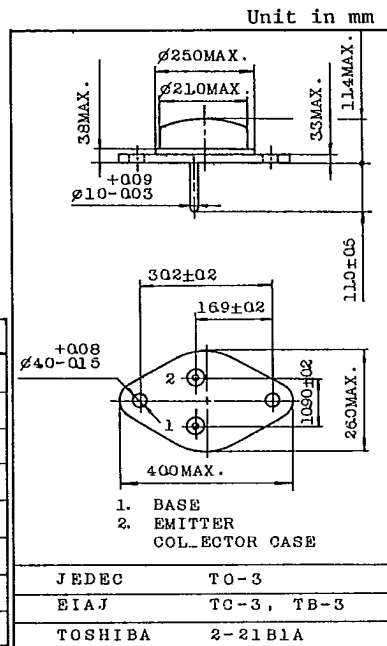
HIGH POWER SWITCHING REGULATOR APPLICATIONS.

FEATURES:

- High Voltage ; $V_{CBO}=900V$
- High Peak Current Capability ; $I_C(\text{Peak})=10A$
- High Speed Switching ; $t_f=0.5\mu s$ (Max.)

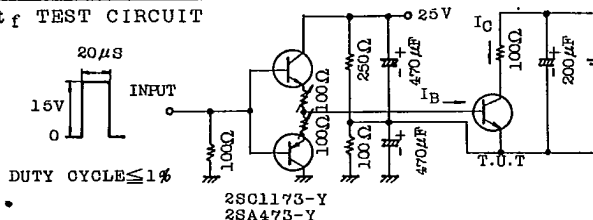
MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V _{CBO}	900	V
Collector-Emitter Voltage	V _{CEO}	400	V
Collector-Base Voltage	V _{EBO}	7	V
Collector Current (DC)	I _C	6	A
Peak Collector Current	I _{c peak}	10	A
Collector Power Dissipation (T _c =25°C)	P _C	50	W
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-65~150	°C

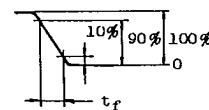


ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	ICBO	V _{CB} =900V, I _E =0	—	—	1	mA
Emitter Cut-off Current	IEBO	V _{EB} =7V, I _C =0	—	—	1	mA
DC Current Gain	h _{FE} (1)	V _{CE} =5V, I _C =10mA	8	—	—	
	h _{FE} (2)	V _{CE} =5V, I _C =0.6A	10	—	40	
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C =2.5A, I _B =0.5A	—	—	5	V
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _C =2.5A, I _B =0.5A	—	—	1.5	V
Collector Output Capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz	—	75	—	pF
Transition Frequency	f _T	V _{CE} =10V, I _C =0.1A	—	5	—	MHz
Fall Time	t _f	I _C =2.5A, I _{B1} =0.5A I _{B2} =-1A (Fig.)	—	—	0.5	μs

Fig. t_f TEST CIRCUIT

COLLECTOR CURRENT WAVEFORM

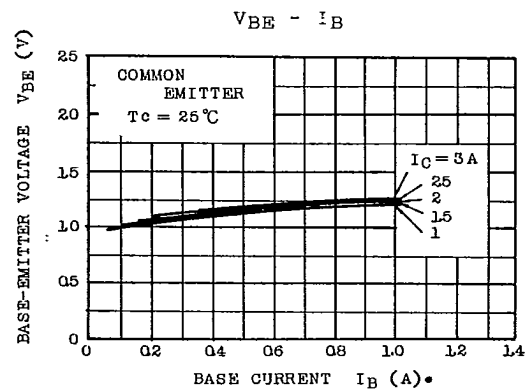
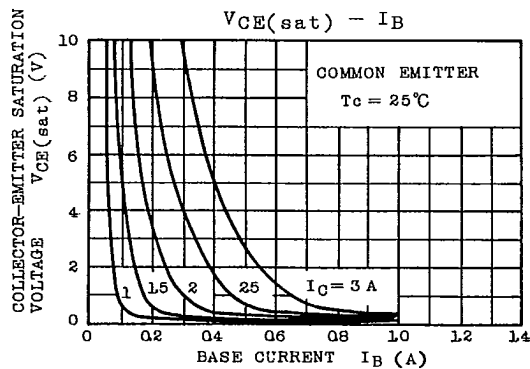
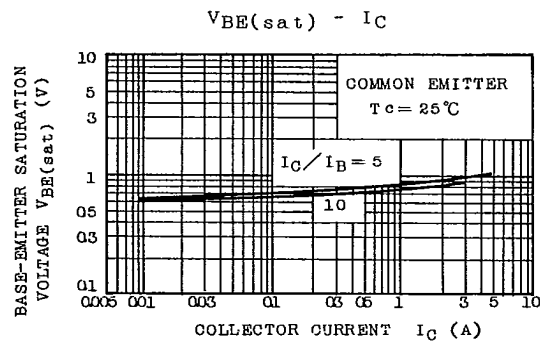
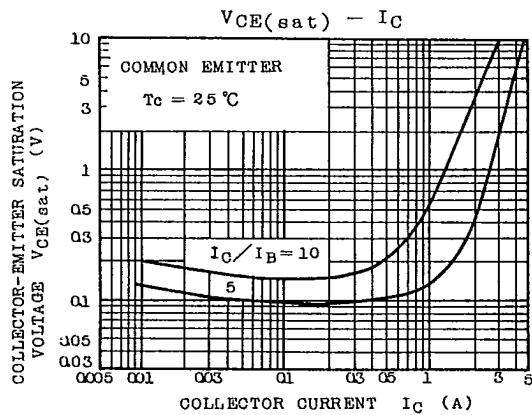
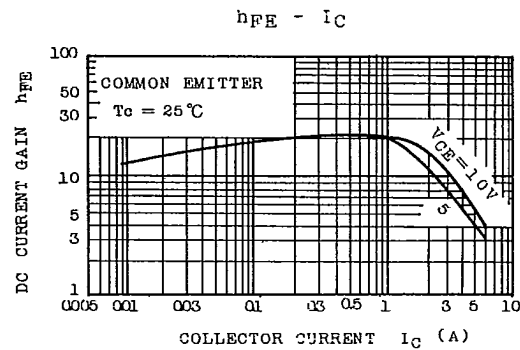
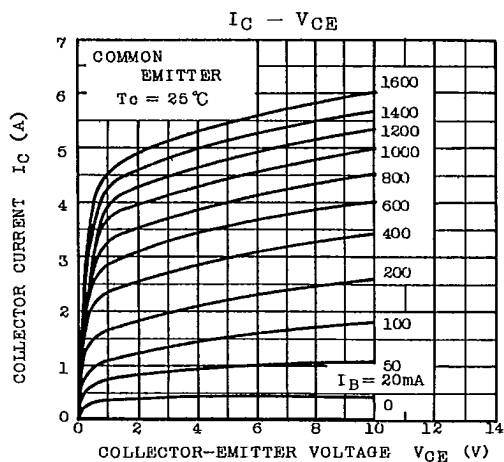


TOSHIBA CORPORATION

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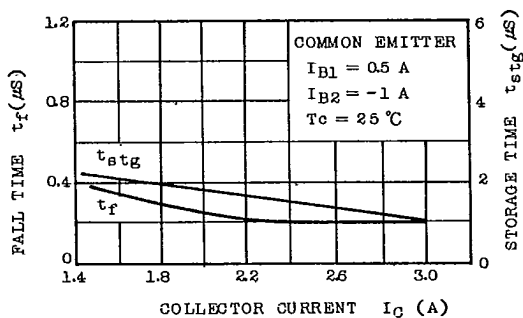
9097250 TOSHIBA (DISCRETE/OPTO)

56C 07798

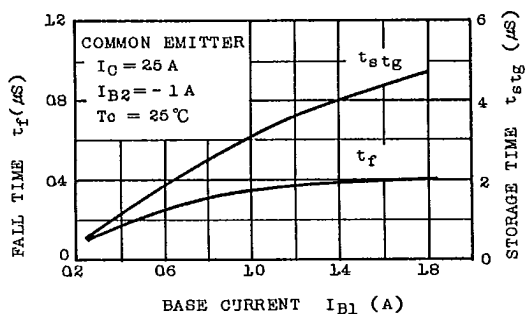
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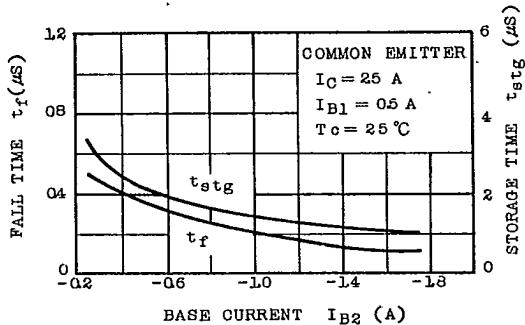
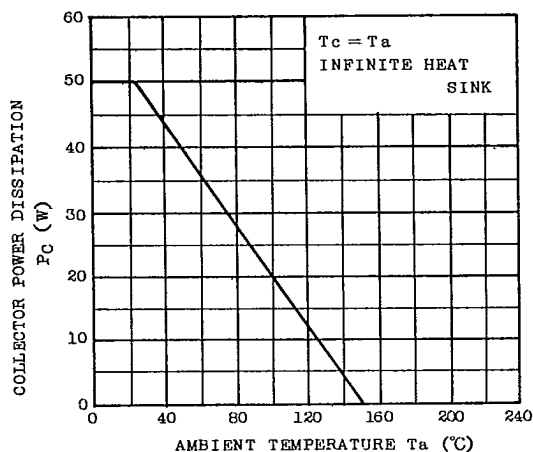
SWITCHING CHARACTERISTICS



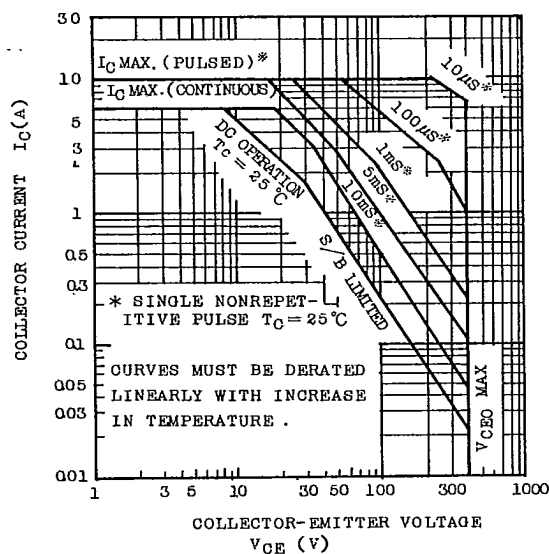
SWITCHING CHARACTERISTICS



SWITCHING CHARACTERISTICS

 $P_C - T_a$ 

SAFE OPERATING AREA



TOSHIBA CORPORATION