

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07796 D Y-33-11

SILICON NPN TRIPLE DIFFUSED MESA TYPE

# 2SD811

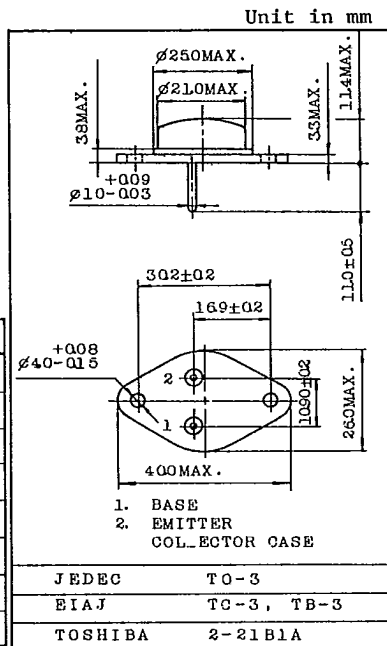
HIGH POWER SWITCHING REGULATOR APPLICATIONS.

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)

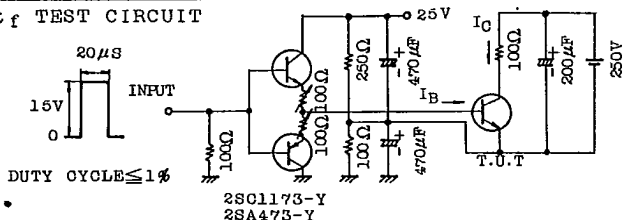
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	900	V
Collector-Emitter Voltage	$V_{CEO}$	400	V
Collector-Base Voltage	$V_{EBO}$	7	V
Collector Current (DC)	$I_C$	6	A
Peak Collector Current	$I_C \text{ peak}$	10	A
Collector Power Dissipation (Tc=25°C)	PC	50	W
Junction Temperature	Tj	150	°C
Storage Temperature Range	Tstg	-65~150	°C



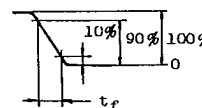
ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=900V, I_E=0$	-	-	1	mA
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=7V, I_C=0$	-	-	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



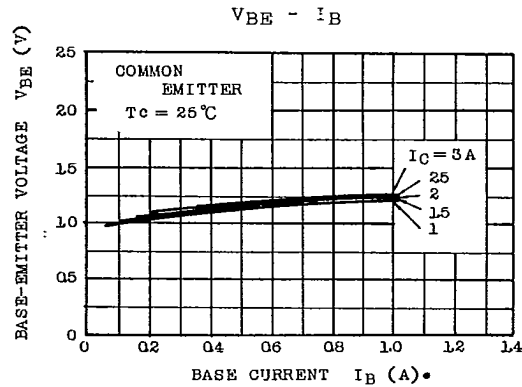
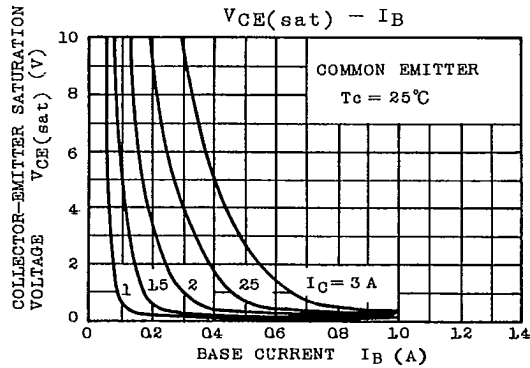
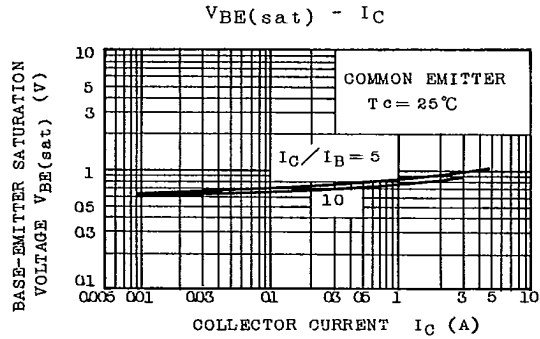
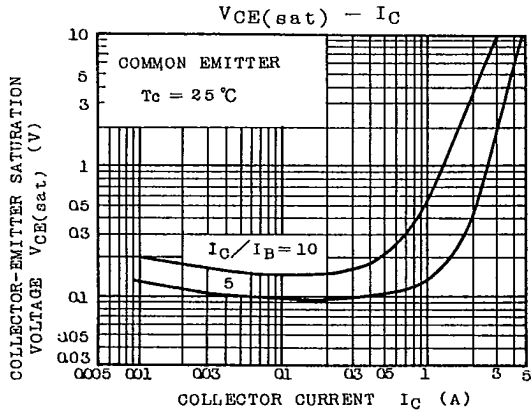
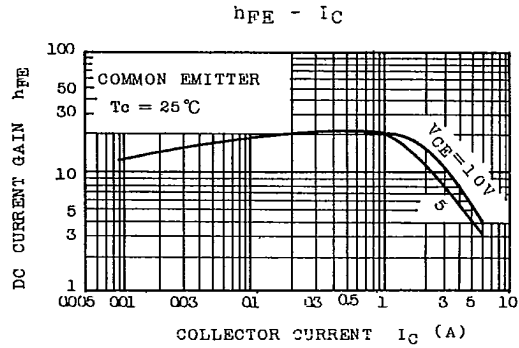
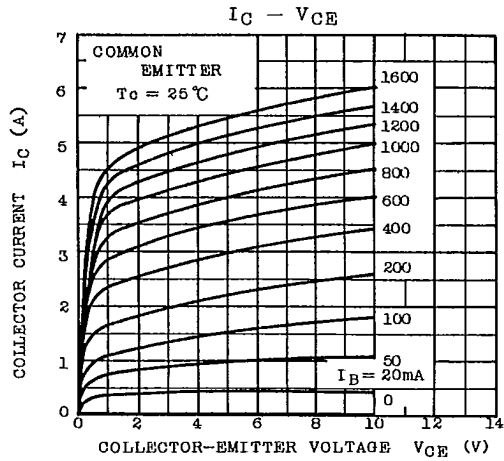
COLLECTOR CURRENT WAVEFORM



..... TOSHIBA CORPORATION

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TOSHIBA CORPORATION

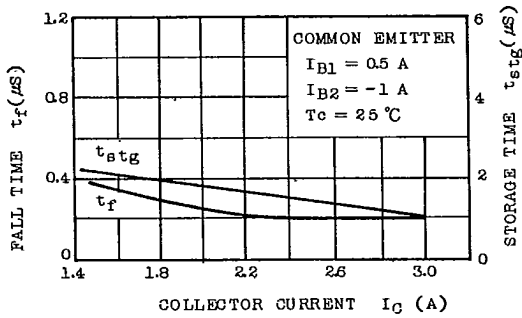
9097250 TOSHIBA (DISCRETE/OPTO)

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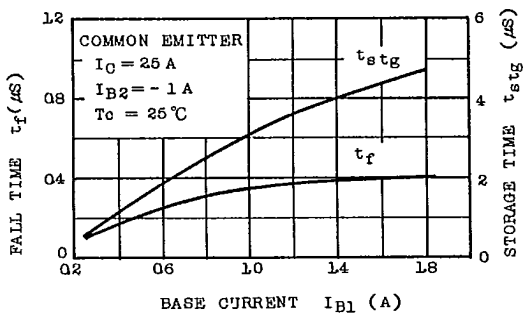
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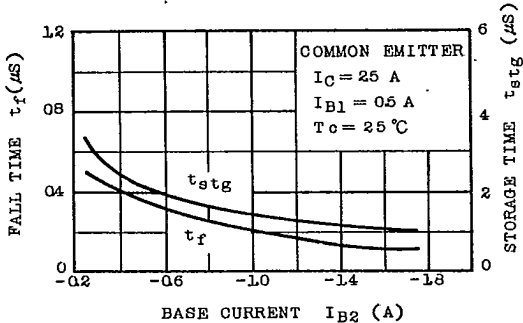
SWITCHING CHARACTERISTICS



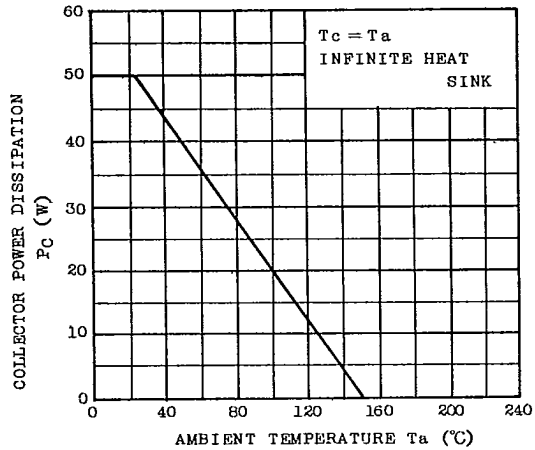
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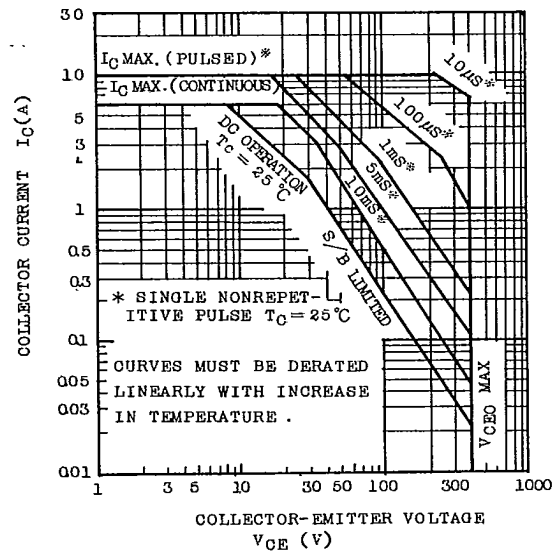
SWITCHING CHARACTERISTICS



$P_C - T_a$



SAFE OPERATING AREA



TOSHIBA CORPORATION