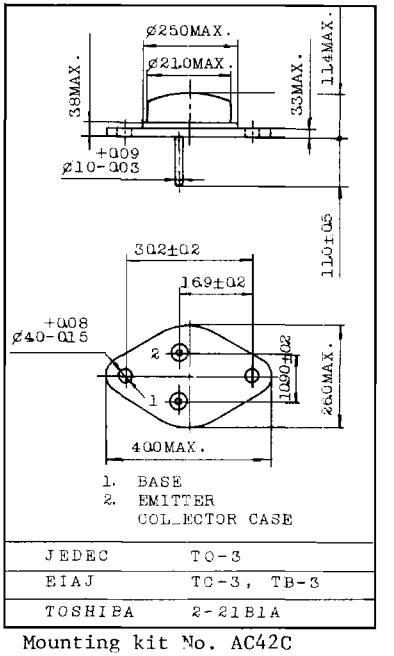
2SD811

HIGH POWER SWITCHING REGULATOR APPLICATIONS.

FEATURES:

- High Voltage : V_{CBO}=900V
- High Peak Current Capability : $I_{C(Peak)}$=10A
- High Speed Switching : t_f=0.5μs (Max.)

Unit in mm



JEDEC	TO-3
EIAJ	TC-3, TB-3
TOSHIBA	2-21B1A

Mounting kit No. AC42C

Weight : 17g

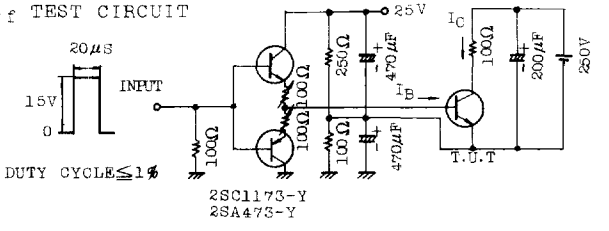
MAXIMUM RATINGS (Ta=25°C)

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 (Tc=25°C)	P_C	50	W
Junction Temperature	T_j	150	°C
Storage Tempeature Range	T_{stg}	-65~150	°C

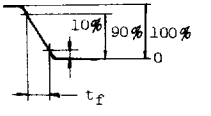
ELECTRICAL CHARACTERISTICS (Ta=25°C)

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

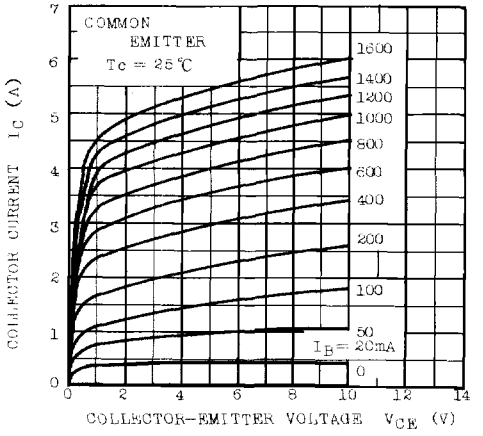
Fig. t_f TEST CIRCUIT



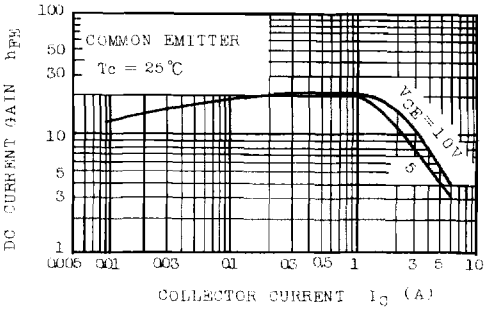
COLLECTOR CURRENT WAVEFORM



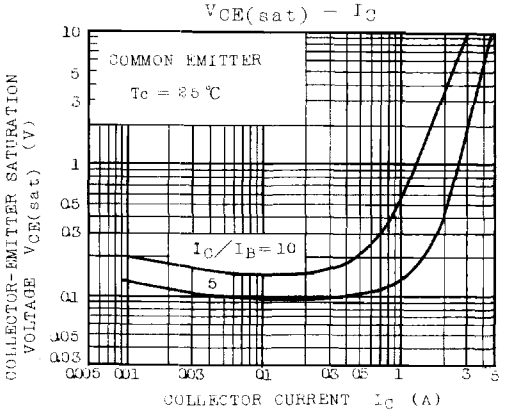
$I_C - V_{CE}$



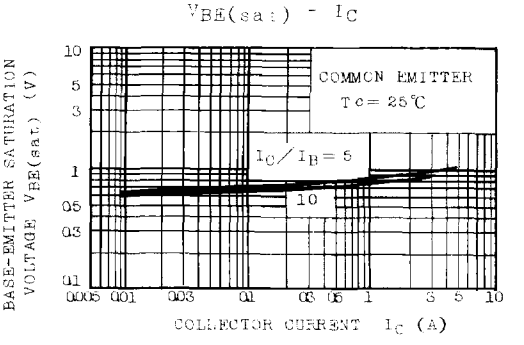
$h_{FE} - I_C$



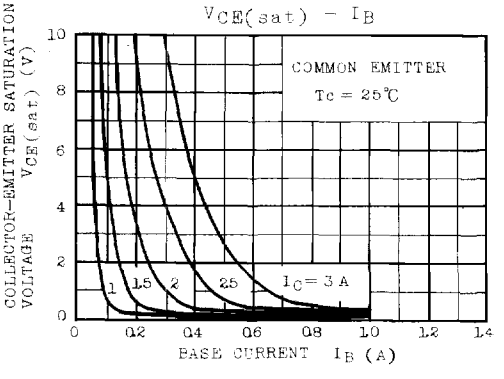
$V_{CE(sat)} - I_C$



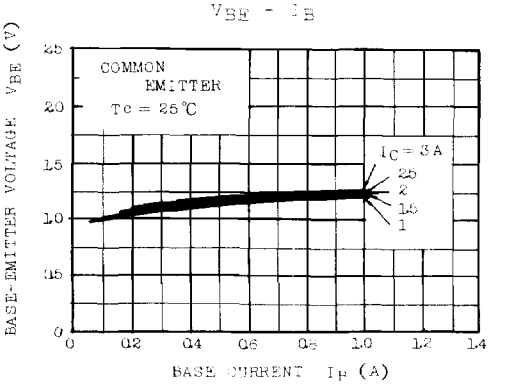
$V_{BE(sat)} - I_C$



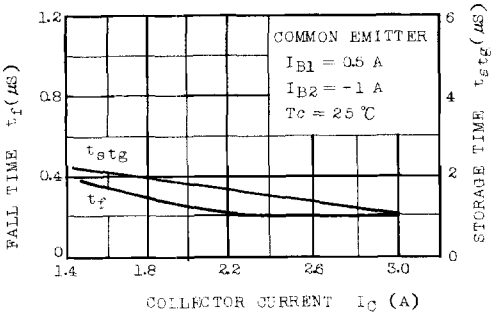
$V_{CE(sat)} - I_B$



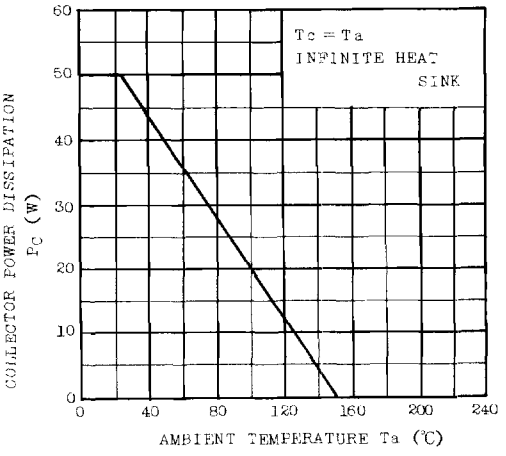
$V_{BE} - I_B$



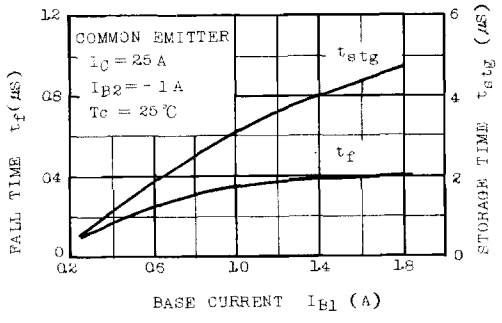
SWITCHING CHARACTERISTICS



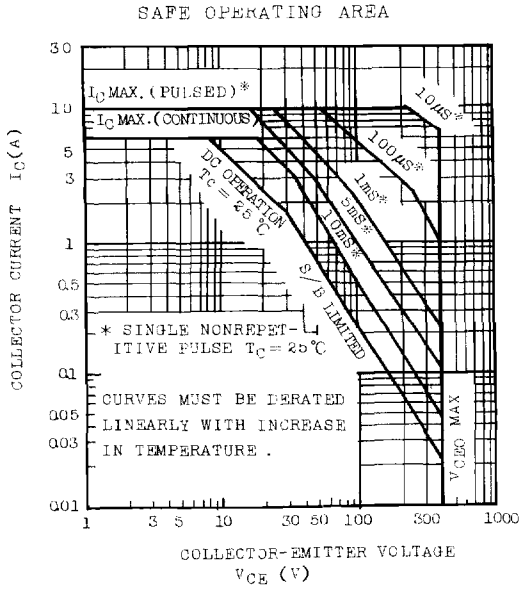
P_C - Ta



SWITCHING CHARACTERISTICS



SAFE OPERATING AREA



SWITCHING CHARACTERISTICS