

9097250 TOSHIBA (DISCRETE/OPTO)

56C 07229 DT-33-21

SILICON PNP TRIPLE DIFFUSED MAS TYPE

2SA656A
2SA657A
2SA658A

POWER AMPLIFIER APPLICATIONS.
 POWER SWITCHING APPLICATIONS.
 DC-DC CONVERTER APPLICATIONS.
 REGULATOR APPLICATIONS.

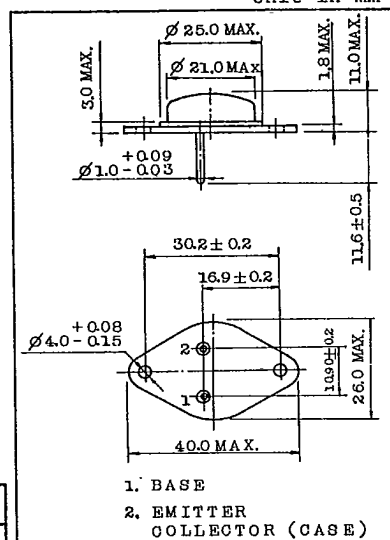
FEATURES:

- High Voltage : $V_{CBO}=-130V$, $V_{CEO}=-110V$ (2SA656A)
- Complementary to 2SC519A, 2SC520A and 2SC521A.

MAXIMUM RATINGS ($T_a=25^\circ C$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	2SA656A	V_{CBO}	-130	V
	2SA657A		-100	
	2SA658A		-70	
Collector-Emitter Voltage	2SA656A	V_{CEO}	-110	V
	2SA657A		-80	
	2SA658A		-50	
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current		I_C	-7	A
Base Current		I_B	-2	A
Collector Power Dissipation	$T_c=25^\circ C$	P_C	50	W
	(Note)		25	
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-65 ~ 150	$^\circ C$

Note : Unit mounted a 300x300x2mm Al on a heat sink with silicone greased mica insulator.

INDUSTRIAL APPLICATIONS
Unit in mm

JEDEC TO-3
 EIAJ TC-3, TB-3
 TOSHIBA 2-21A1A

Mounting Kit No. AC73
 Weight : 12g

TOSHIBA CORPORATION

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56C 07230

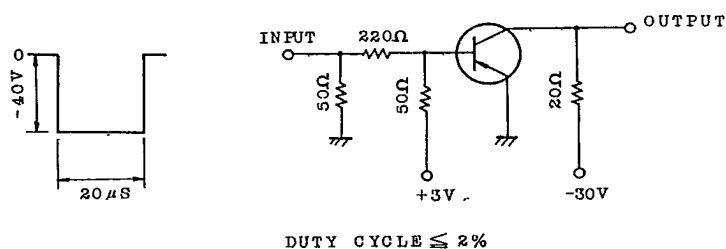
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2SA656A • 2SA657A • 2SA658A

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	2SA656A	I_{CBO}	$V_{CB}=-130V, I_E=0$	-	-	-100	μA
	2SA657A		$V_{CB}=-100V, I_E=0$	-	-	-100	
	2SA658A		$V_{CB}=-70V, I_E=0$	-	-	-100	
Emitter Cut-off Current		I_{EBO}	$V_{EB}=-5V, I_C=0$	-	-	-5	mA
Collector-Emitter Breakdown Voltage	2SA656A	$V_{(BR)CEO}$	$I_C=-50mA, I_B=0$	-110	-	-	V
	2SA657A			-80	-	-	
	2SA658A			-50	-	-	
DC Current Gain		$h_{FE(1)}$	$V_{CE}=-5V, I_C=-1A$	30	-	300	
		$h_{FE(2)}$	$V_{CE}=-5V, I_C=-5A$	15	-	-	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	$I_C=-5A, I_B=-1A$	-	-0.7	-2	V
	Base-Emitter	$V_{BE(sat)}$		-	-1.4	-2.5	
Transition Frequency		f_T	$V_{CE}=-10V, I_C=-1A$	-	5	-	MHz
Collector Output Capacitance		C_{ob}	$V_{CB}=-50V, I_E=0, f=1MHz$	-	150	-	pF
Switching Time	Turn-on Time	t_{on}	(Fig.)	-	0.5	-	μs
	Storage Time	t_{stg}		-	3.0	-	
	Fall Time	t_f		-	0.4	-	

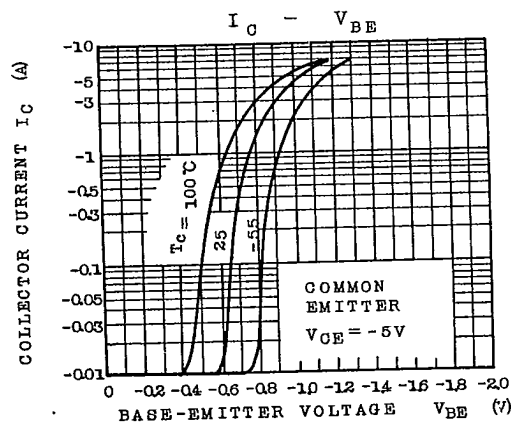
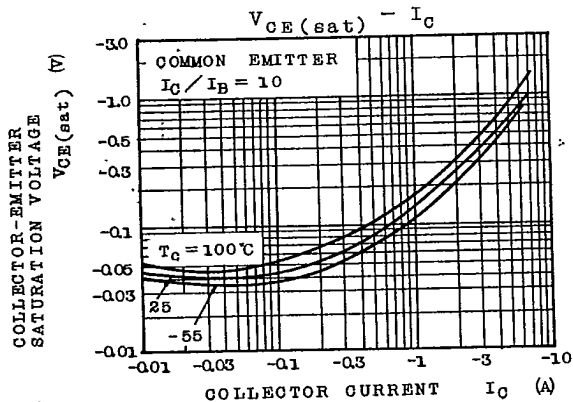
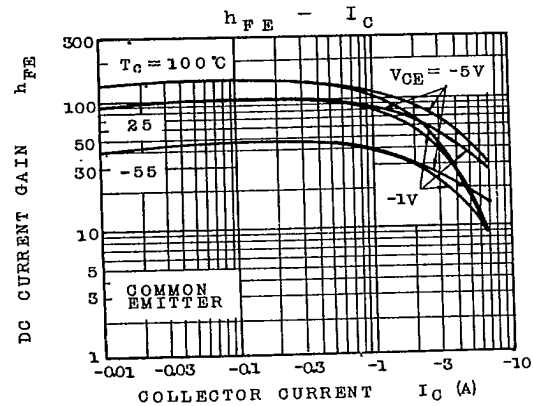
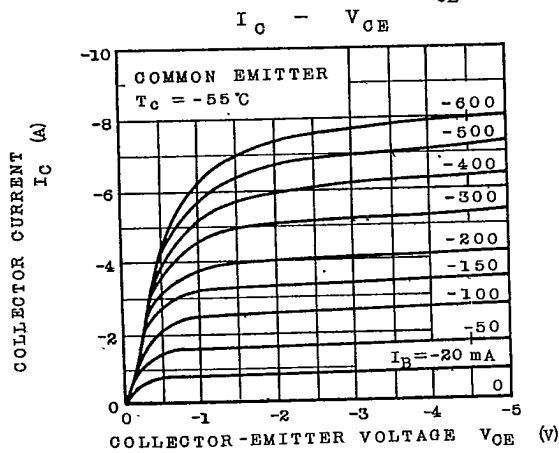
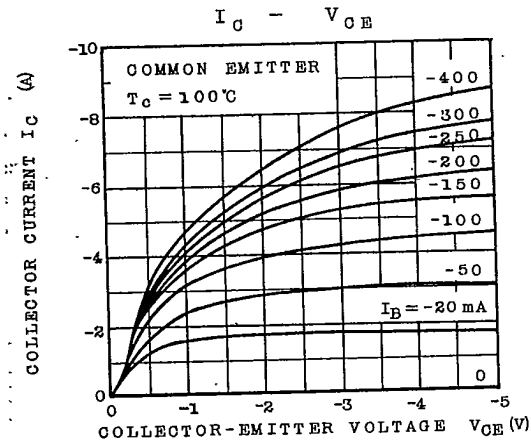
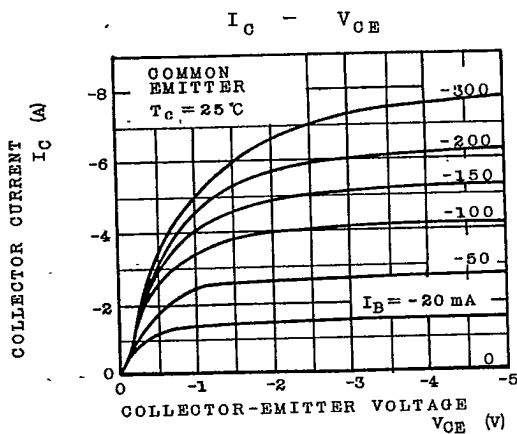
Fig. SWITCHING TIME TEST CIRCUIT



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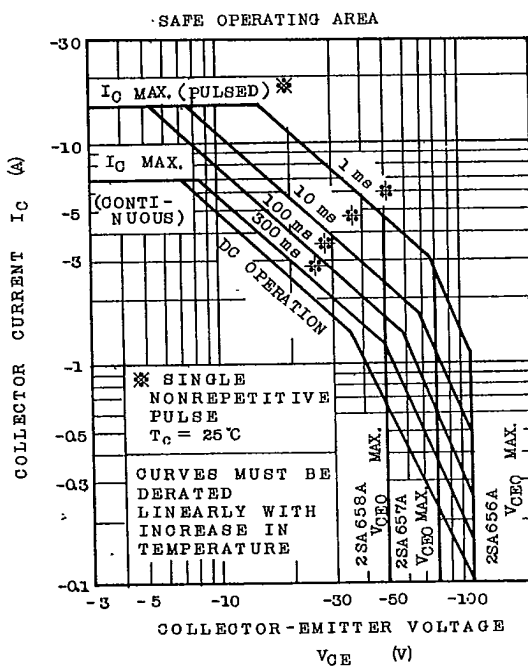
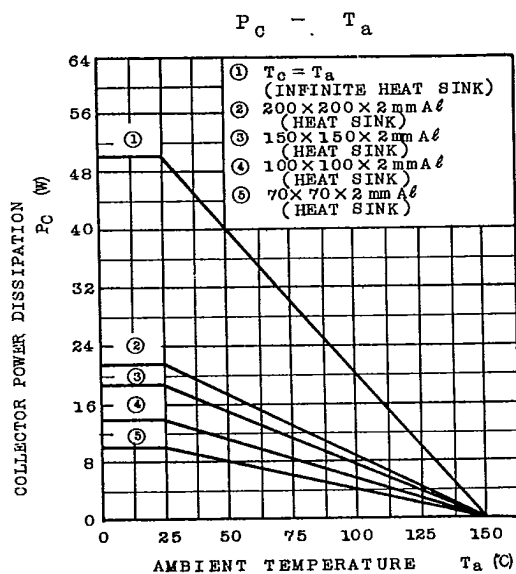
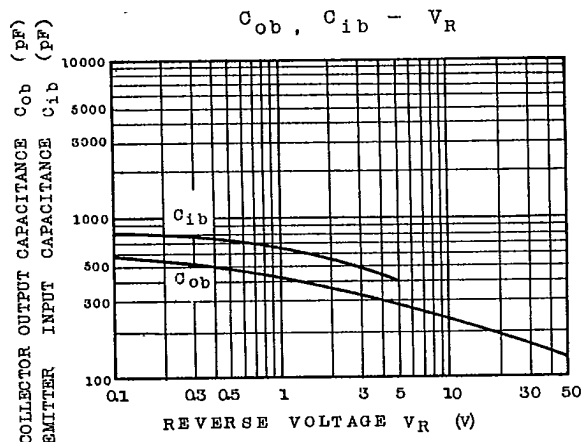
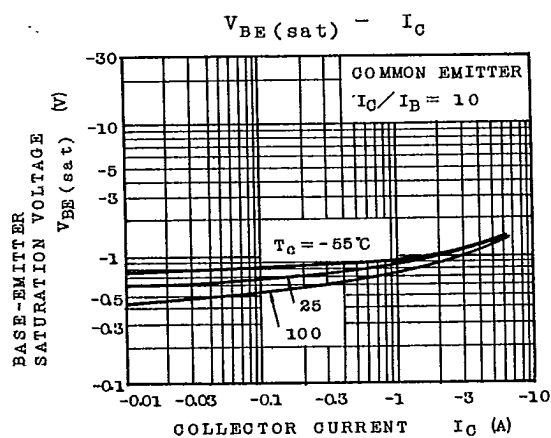
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