SILICON NPN TRIPLE DIFFUSED TYPE (PCT PROCESS)

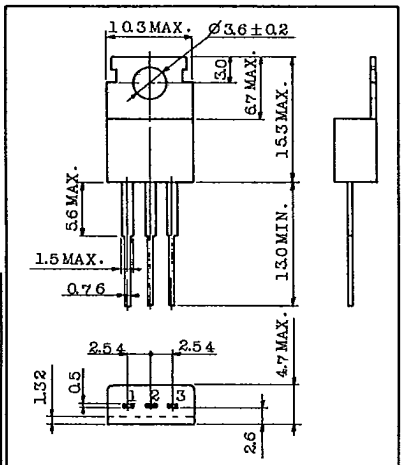
2SD1052A

AUDIO FREQUENCY POWER AMPLIFIER APPLICATIONS.

FEATURES :

- High DC Current Gain of 400 to 1200 at V_{CE}=5V, I_C=0.5A
- Low $V_{CE(sat)}$ of 1.0V (MAX.) at I_C=1A, I_B=0.02A
- Collector Power Dissipation of 30W at Tc=25°C

Unit in mm



1. BASE
2. COLLECTOR(HEAT SINK)
3. EMITTER

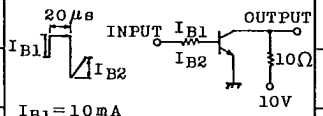
JEDEC	TO-220AB
EIAJ	SC-46
TOSHIBA	2-10A1A

Mounting kit No.AC75
Weight : 1.9g

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	50	V
Collector-Emitter Voltage		V_{CEO}	50	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current		I_C	3	A
Base Current		I_B	0.5	A
Collector Power Dissipation	Ta=25°C	P_C	1.5	W
	Tc=25°C		30	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	-55~150	°C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=50V, I_E=0	-	-	100	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=7V, I_C=0	-	-	100	μA
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	I_C=50mA, I_B=0	50	-	-	V
DC Current Gain		h_{FE}	V_{CE}=5V, I_C=0.5A	400	-	1200	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=1A, I_B=0.02A	-	0.25	1.0	V
Base-Emitter Voltage		V_{BE}	V_{CE}=5V, I_C=0.5A	-	0.7	1.0	V
Transition Frequency		f_T	V_{CE}=5V, I_C=0.5A	-	5.0	-	MHz
Collector Output Capacitance		C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	70	-	pF
Switching Time	Turn-on Time	T_{on}		-	2.0	-	μs
	Storage Time	T_{stg}		-	5.0	-	
	Fall Time	T_f		-	3.0	-	

I_{B1}=10mA
I_{B2}=-20mA
DUTY CYCLL<1%

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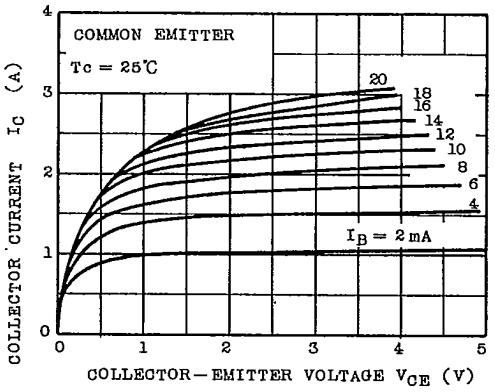
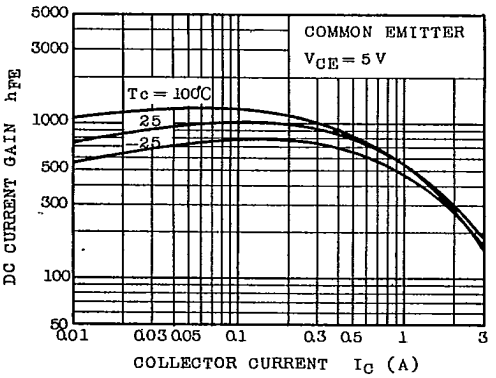
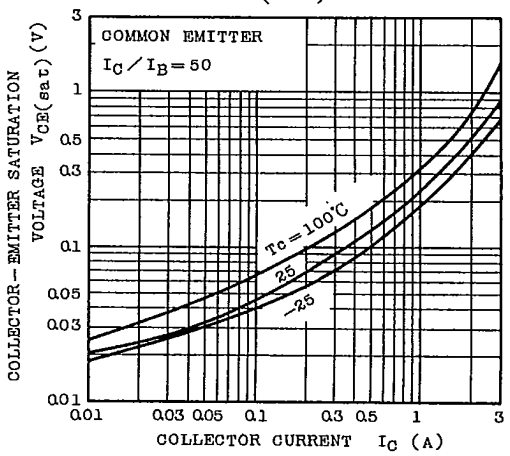
$I_C - V_{CE}$



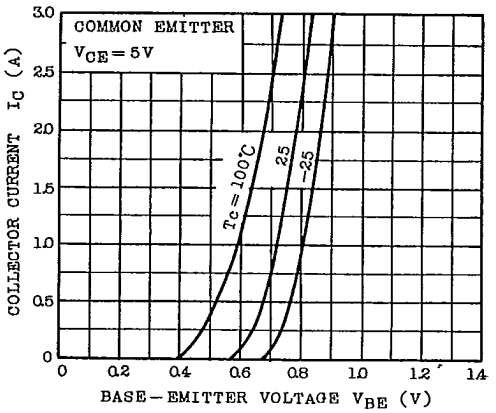
$h_{FE} - I_C$



$V_{CE(sat)} - I_C$



$I_C - V_{BE}$



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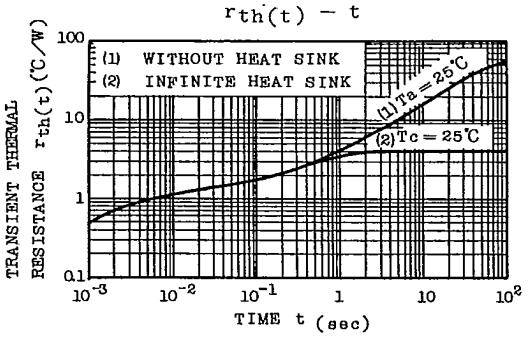
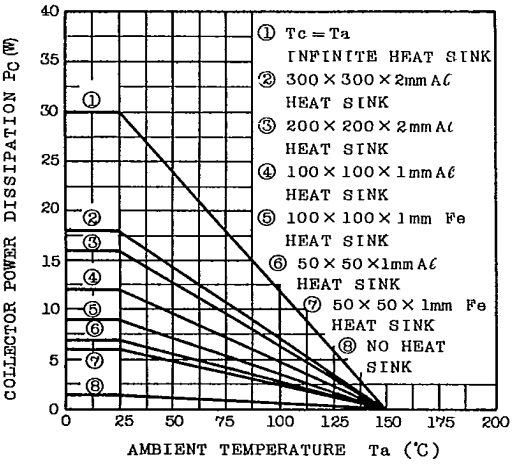
$r_{th(t)} - t$



$P_C - Ta$



SAFE OPERATING AREA