

TOSHIBA TRANSISTOR SILICON PNP TRIPLE DIFFUSED TYPE

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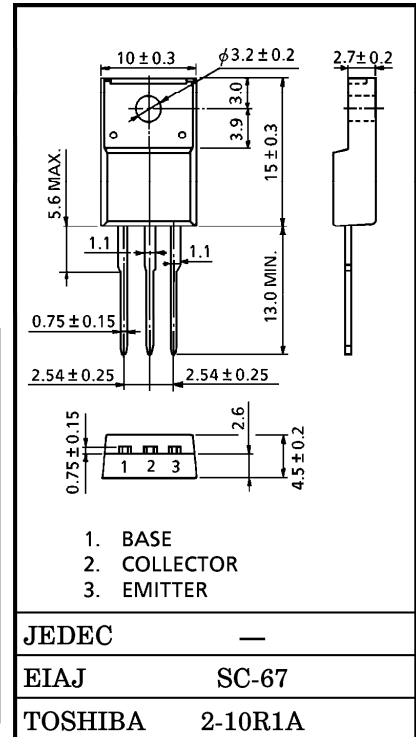
AUDIO FREQUENCY POWER AMPLIFIER APPLICATIONS

Unit in mm

- Low Collector Saturation Voltage : $V_{CE(sat)} = -1.7 \text{ V (Max.)}$
($I_C = -3 \text{ A}, I_B = -0.3 \text{ A}$)
- Collector Power Dissipation : $P_C = 25 \text{ W (} T_c = 25^\circ\text{C)}$

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EB0}	-7	V
Collector Current	I_C	-3	A
Base Current	I_B	-0.5	A
Collector Power Dissipation	P_C	$T_a = 25^\circ\text{C}$	2.0
		$T_c = 25^\circ\text{C}$	25
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~150	$^\circ\text{C}$



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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} = -60 V, I _E = 0	—	—	-100	μA
Emitter Cut-off Current		IEBO	V _{EB} = -7 V, I _C = 0	—	—	-100	μA
Collector-Emitter Breakdown Voltage		V _{(BR)CEO}	I _C = -50 mA, I _B = 0	-60	—	—	V
DC Current Gain	h _{FE} (1) (Note)		V _{CE} = -5 V, I _C = -0.5 A	60	—	200	
	h _{FE} (2)		V _{CE} = -5 V, I _C = -3 A	20	—	—	
Collector-Emitter Saturation Voltage		V _{CE(sat)}	I _C = -3 A, I _B = -0.3 A	—	-0.5	-1.7	V
Base-Emitter Voltage		V _{BE}	V _{CE} = -5 V, I _C = -0.5 A	—	-0.7	-1.0	V
Transition Frequency		f _T	V _{CE} = -5 V, I _C = -0.5 A	—	9	—	MHz
Collector Output Capacitance		C _{ob}	V _{CB} = -10 V, I _E = 0, f = 1 MHz	—	150	—	pF
Switching Time	Turn-on Time	t _{on}	<p> I_{B1} I_{B2} I_{B1} I_{B2} INPUT OUTPUT $20 \mu s$ 15Ω $V_{CC} = -30 V$ </p>	—	0.4	—	μs
	Storage Time	t _{stg}		—	1.7	—	
	Fall Time	t _f		$-I_{B1} = I_{B2} = 0.2 A,$ $DUTY\ CYCLE \leq 1\%$	—	0.5	

(Note) : h_{FE}(1) Classification O : 60~120, Y : 100~200

