

TOSHIBA TRANSISTOR SILICON PNP TRIPLE DIFFUSED TYPE

2SB1667(SM)

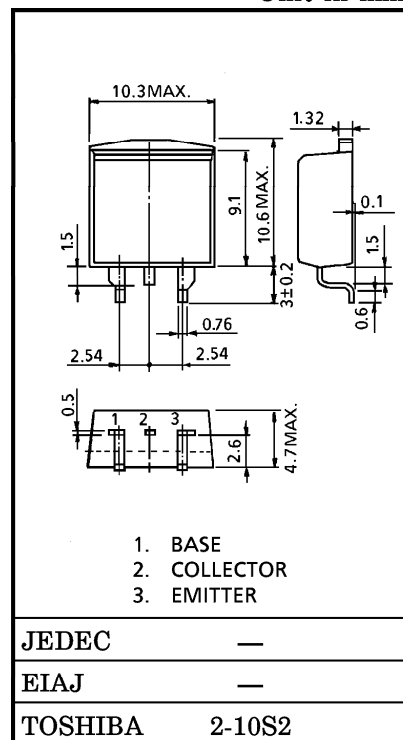
AUDIO FREQUENCY POWER AMPLIFIER APPLICATIONS

Unit in mm

- Low Collector Saturation Voltage
 : $V_{CE(sat)} = -1.7\text{ V (Max.)}$ ($I_C = -3\text{ A}$, $I_B = -0.3\text{ A}$)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EBO}	-7	V
Collector Current	I_C	-3	A
Base Current	I_B	-0.5	A
Collector Power Dissipation	P_C	$T_a = 25^\circ\text{C}$	1.5
		$T_c = 25^\circ\text{C}$	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	I_{CBO}	$V_{CB} = -60\text{ V}, I_E = 0$	—	—	-100	μA	
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -7\text{ V}, I_C = 0$	—	—	-100	μA	
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -50\text{ mA}, I_B = 0$	-60	—	—	V	
DC Current Gain	$h_{FE(1)}$ (Note)	$V_{CE} = -5\text{ V}, I_C = -0.5\text{ A}$	60	—	300		
	$h_{FE(2)}$	$V_{CE} = -5\text{ V}, I_C = -3\text{ A}$	20	—	—		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -3\text{ A}, I_B = -0.3\text{ A}$	—	-0.5	-1.7	V	
Base-Emitter Voltage	V_{BE}	$V_{CE} = -5\text{ V}, I_C = -0.5\text{ A}$	—	-0.7	-1.0	V	
Transition Frequency	f_T	$V_{CE} = -5\text{ V}, I_C = -0.5\text{ A}$	—	9	—	MHz	
Collector Output Capacitance	C_{ob}	$V_{CB} = -10\text{ V}, I_E = 0,$ $f = 1\text{ MHz}$	—	150	—	pF	
Switching Time	Turn-on Time	t_{on}	<p style="text-align: center;">$V_{CC} = -30\text{ V}$</p> <p style="text-align: center;">$-I_{B1} = I_{B2} = 0.2\text{ A},$ $DUTY\ CYCLE \leq 1\%$</p>	—	0.4	—	μs
	Storage Time	t_{stg}		—	1.7	—	
	Fall Time	t_f		—	0.5	—	

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

