

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

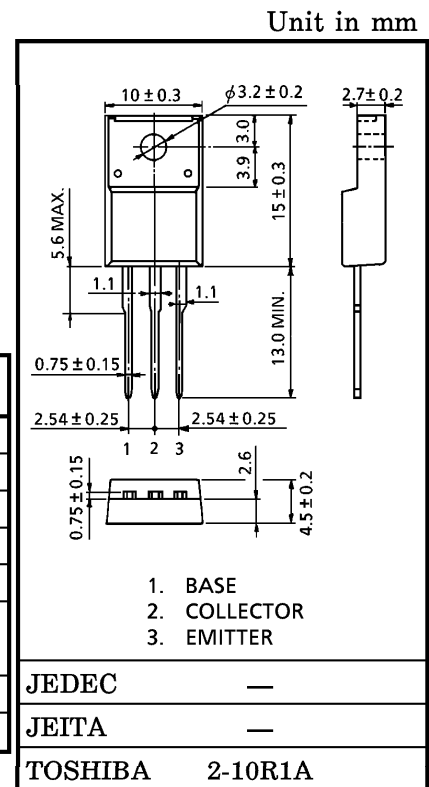
# 2SD2012

AUDIO FREQUENCY POWER AMPLIFIER APPLICATIONS

- High DC Current Gain :  $h_{FE(1)} = 100$  (Min.)
- Low Saturation Voltage :  $V_{CE(sat)} = 1.0$  V (Max.)
- High Power Dissipation :  $P_C = 25$  W ( $T_c = 25^\circ\text{C}$ )

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

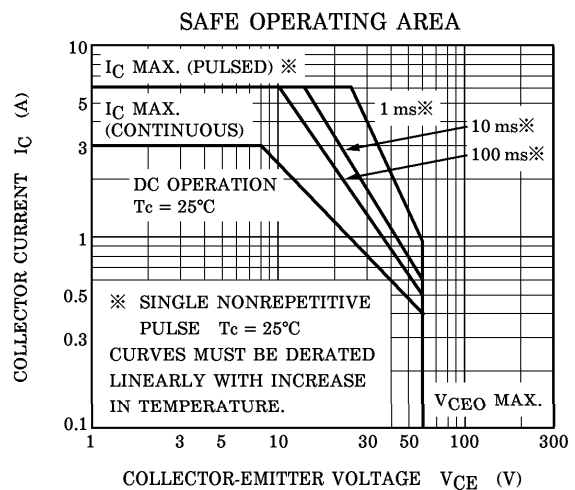
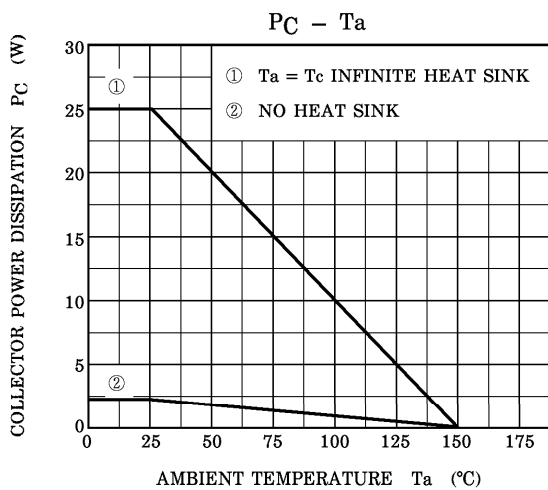
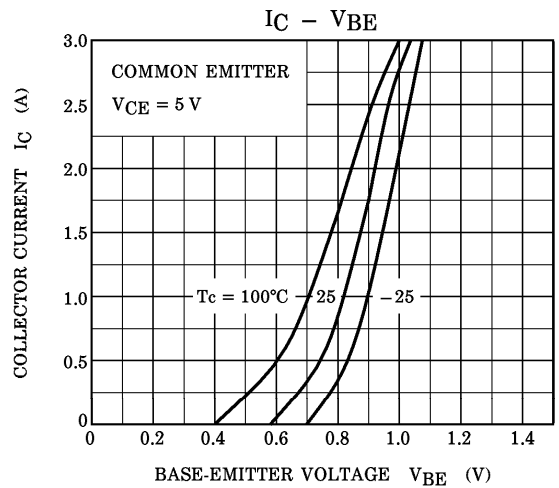
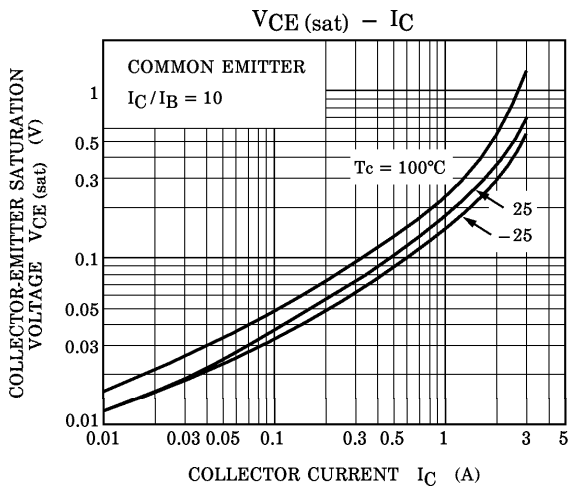
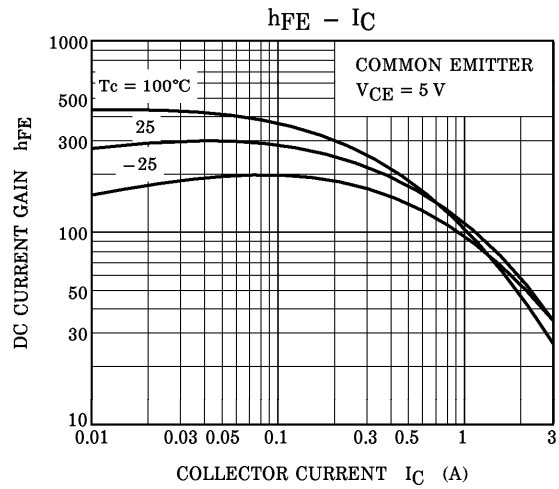
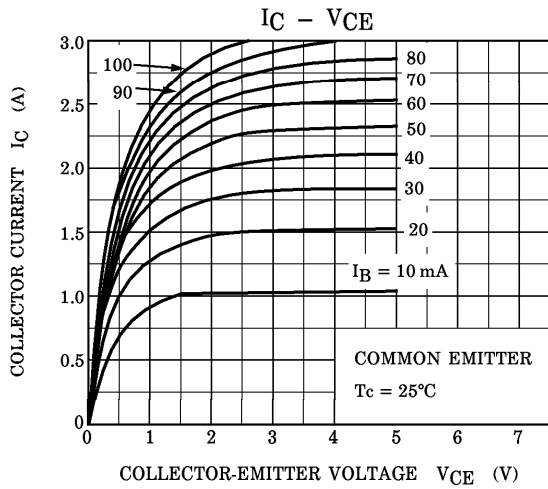
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	60	V
Emitter-Base Voltage	$V_{EBO}$	7	V
Collector Current	$I_C$	3	A
Base Current	$I_B$	0.5	A
Collector Power Dissipation	$P_C$	$T_a = 25^\circ\text{C}$	2.0
		$T_c = 25^\circ\text{C}$	25
Junction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

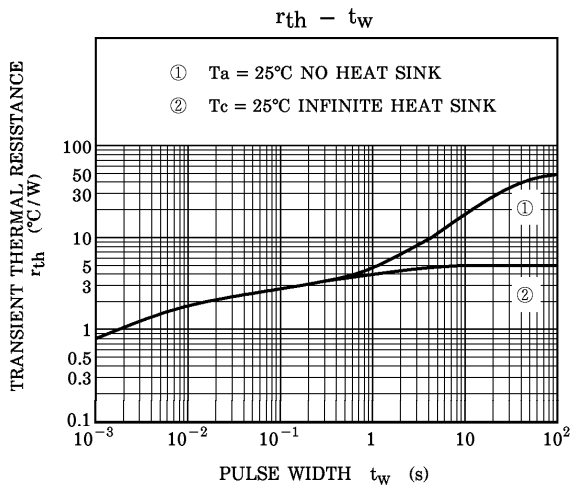


Weight : 1.7 g (Typ.)

ELECTRICAL CHARACTERISTICS ( $T_c = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 60$ V, $I_E = 0$	—	—	100	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 7$ V, $I_C = 0$	—	—	100	$\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 50$ mA, $I_B = 0$	60	—	—	V
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 5$ V, $I_C = 0.5$ A	100	—	320	
	$h_{FE(2)}$	$V_{CE} = 5$ V, $I_C = 2$ A	20	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2$ A, $I_B = 0.2$ A	—	0.4	1.0	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE} = 5$ V, $I_C = 0.5$ A	—	0.75	1.0	V
Transition Frequency	$f_T$	$V_{CE} = 5$ V, $I_C = 0.5$ A	—	3	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10$ V, $I_E = 0$ , $f = 1$ MHz	—	35	—	pF





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