

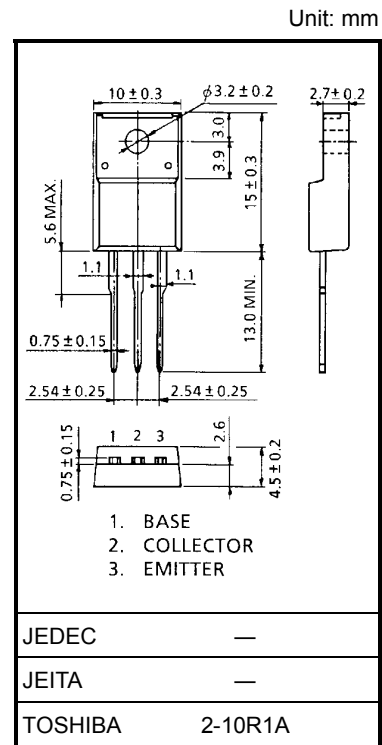
2SD2012

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

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	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 to 150	$^\circ\text{C}$

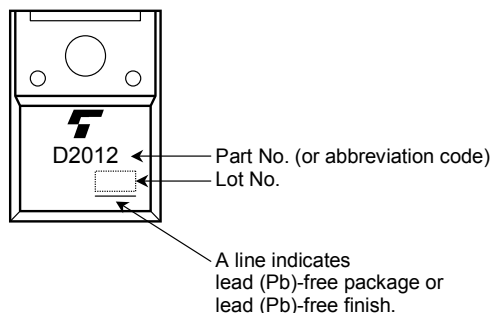


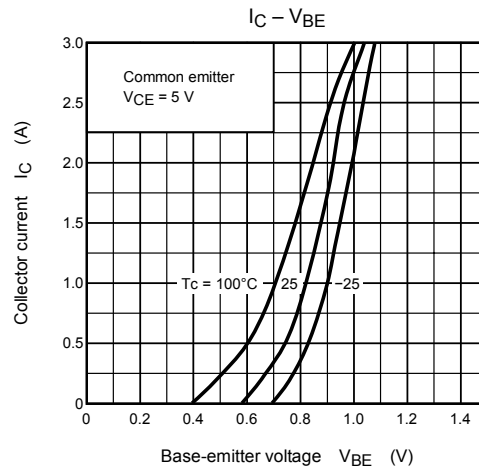
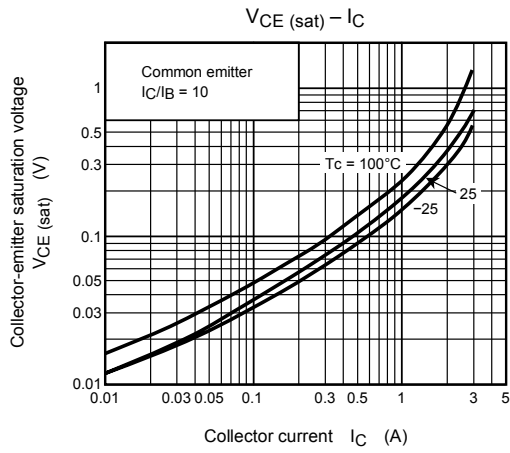
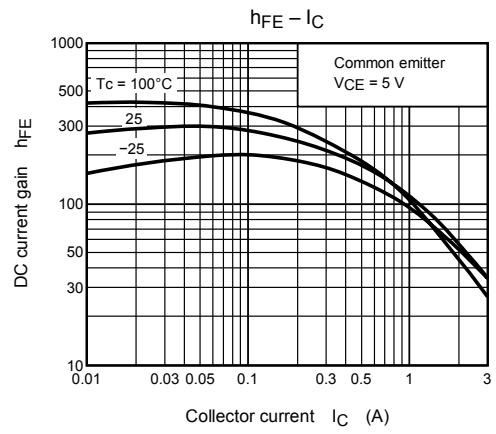
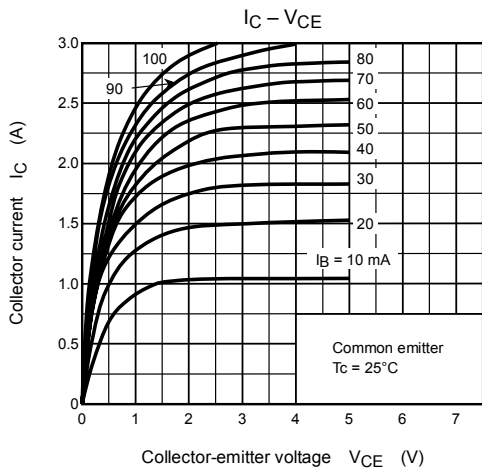
Weight: 1.7 g (typ.)

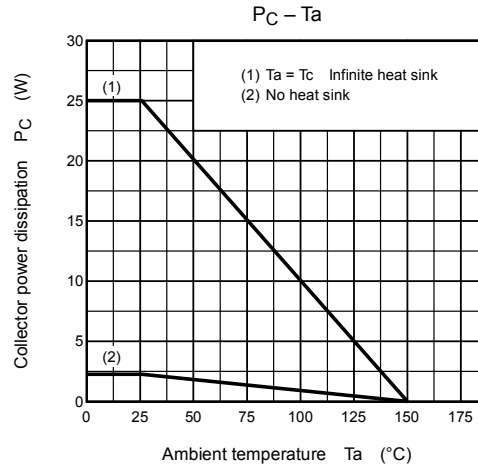
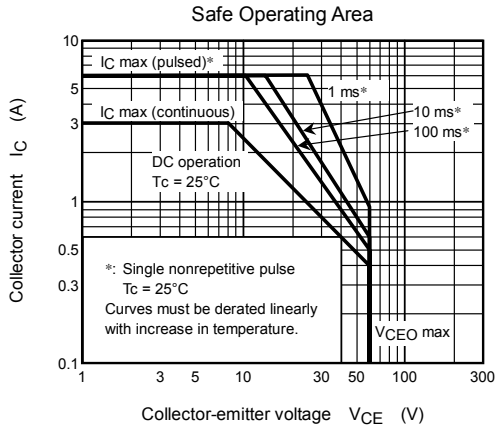
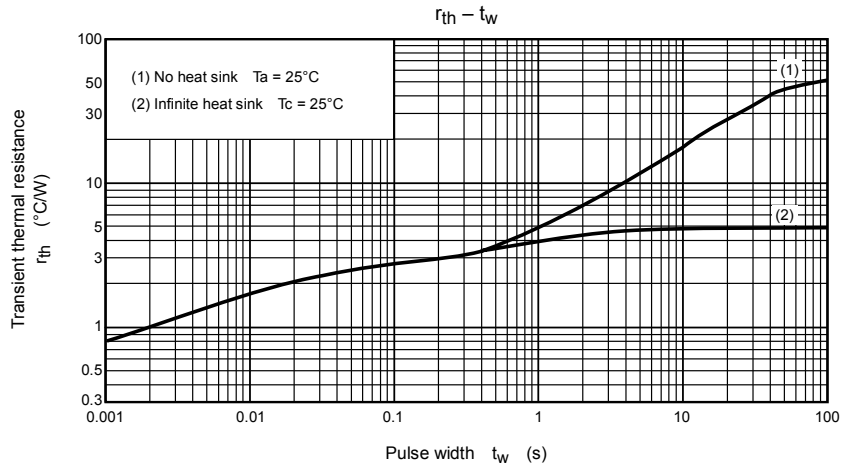
Electrical Characteristics ($T_c = 25^\circ\text{C}$)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CB0}	$V_{CB} = 60$ V, $I_E = 0$	—	—	100	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 7$ 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	$h_{FE(1)}$	$V_{CE} = 5$ 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

Marking







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