

Transistor

Silicon NPN Epitaxial Planar Type

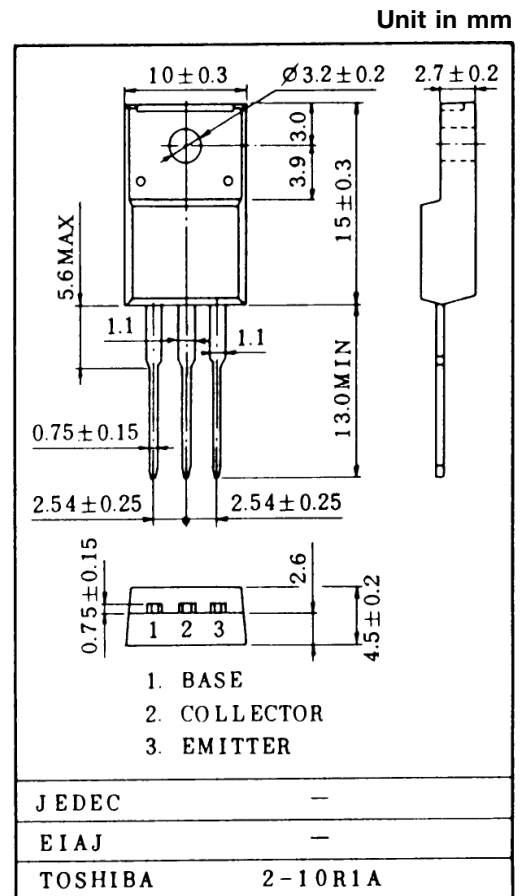
Power Amplifier, Driver Stage Applications

Features

- High Transistion: $f_T = 100\text{MHz}$
- Complementary to 2SA1837

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

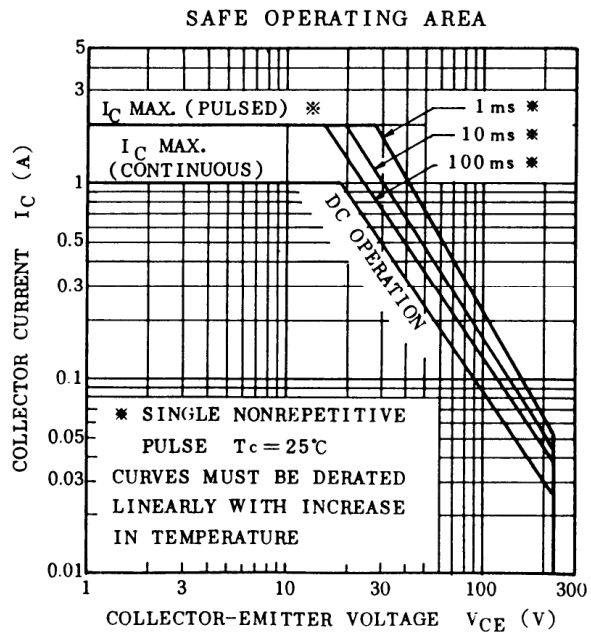
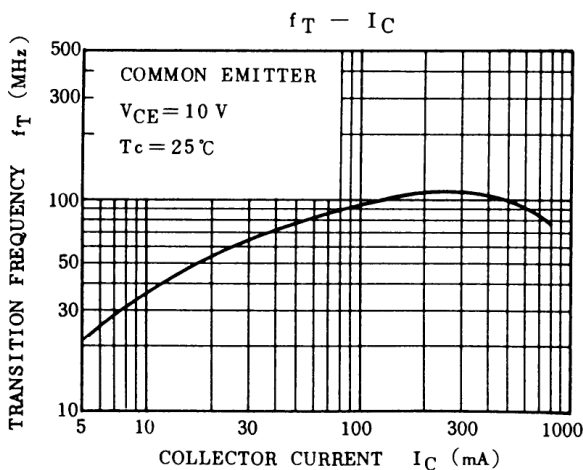
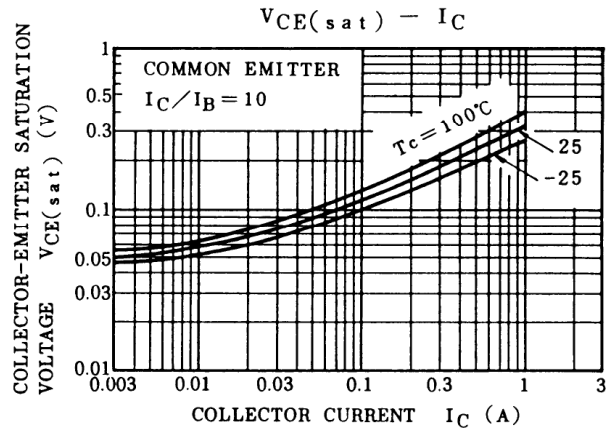
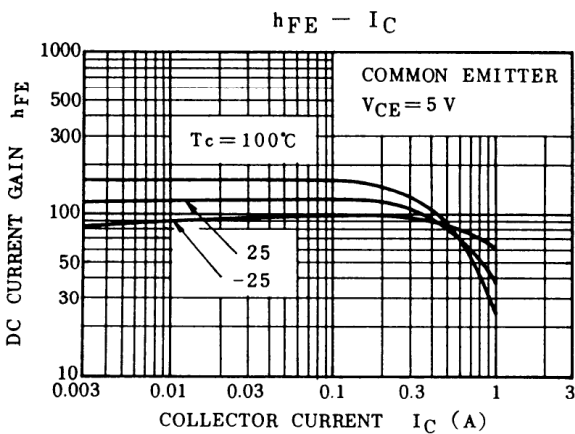
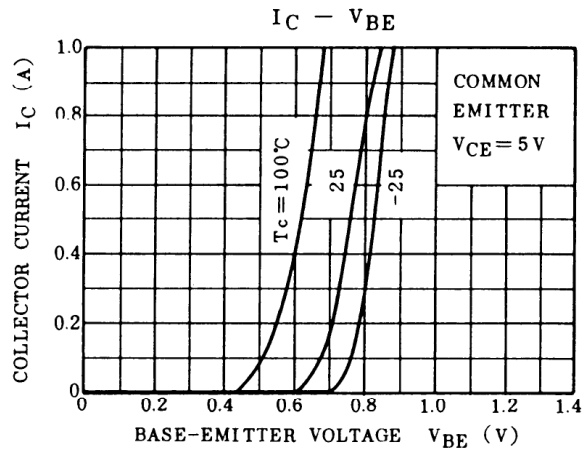
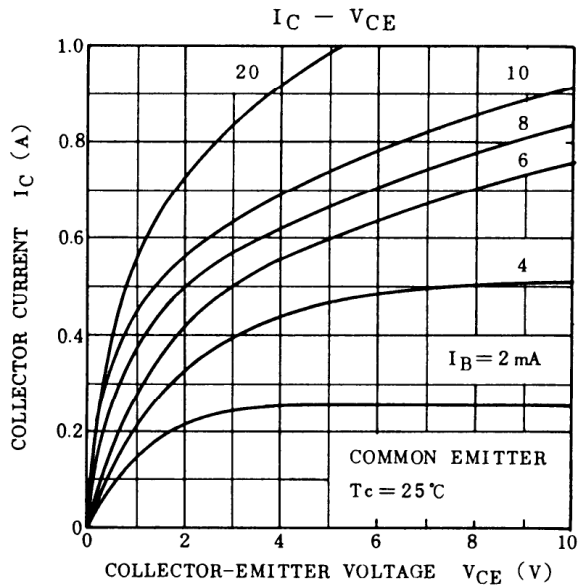
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	230	V
Collector-Emitter Voltage	V_{CE0}	230	V
Collector-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	1	mA
Base Current	I_B	0.1	mA
Collector Power Dissipation	$T_a = 25^\circ\text{C}$	P_C	2.0
	$T_c = 25^\circ\text{C}$		20
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 ~ 125	$^\circ\text{C}$



Weight : 1.7g

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 230\text{V}, I_E = 0$	-	-	1.0	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$	-	-	1.0	μA
Collector-Emmitter Breakdown Voltage	$V_{(BR) CEO}$	$I_C = 10\text{mA}, I_B = 0$	230	-	-	V
DC Current Gain	h_{FE}	$V_{CE} = 5\text{V}, I_C = 100\text{mA}$	100	-	320	
Collector-Emmitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$	-	-	1.5	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = 5\text{V}, I_C = 500\text{mA}, f = 1\text{MHz}$	-	-	1.0	pF
Transistion Frequency	f_T	$V_{CE} = 10\text{V}, I_C = 100\text{mA}$	-	100	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_C = 0, f = 1\text{MHz}$	-	20	-	pF



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TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE

2SA1837

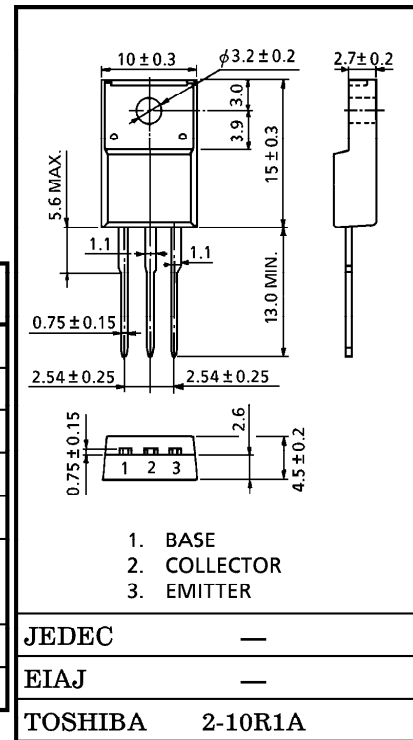
POWER AMPLIFIER APPLICATIONS
DRIVER STAGE AMPLIFIER APPLICATIONS

Unit in mm

- High Transition Frequency : $f_T=70\text{MHz}$ (Typ.)
- Complementary to 2SC4793

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CB0}	-230	V
Collector-Emitter Voltage		V_{CE0}	-230	V
Emitter-Base Voltage		V_{EB0}	-5	V
Collector Current		I_C	-1	A
Base Current		I_B	-0.1	A
Collector Power Dissipation	$T_a = 25^\circ\text{C}$	P_C	2.0	W
	$T_c = 25^\circ\text{C}$		20	
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-55~150	$^\circ\text{C}$



Weight : 1.7g

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = -230\text{V}, I_E = 0$	—	—	-1.0	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$	—	—	-1.0	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10\text{mA}, I_B = 0$	-230	—	—	V
DC Current Gain	h_{FE}	$V_{CE} = -5\text{V}, I_C = -100\text{mA}$	100	—	320	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}, I_B = -50\text{mA}$	—	—	-1.5	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = -5\text{V}, I_C = -500\text{mA}$	—	—	-1.0	V
Transition Frequency	f_T	$V_{CE} = -10\text{V}, I_C = -100\text{mA}$	—	70	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_C = 0, f = 1\text{MHz}$	—	30	—	pF

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