TOSHIBA

Discrete Semiconductors 2SC4793

Transistor

Silicon NPN Epitaxial Planar Type

Power Amplifier, Driver Stage Applications

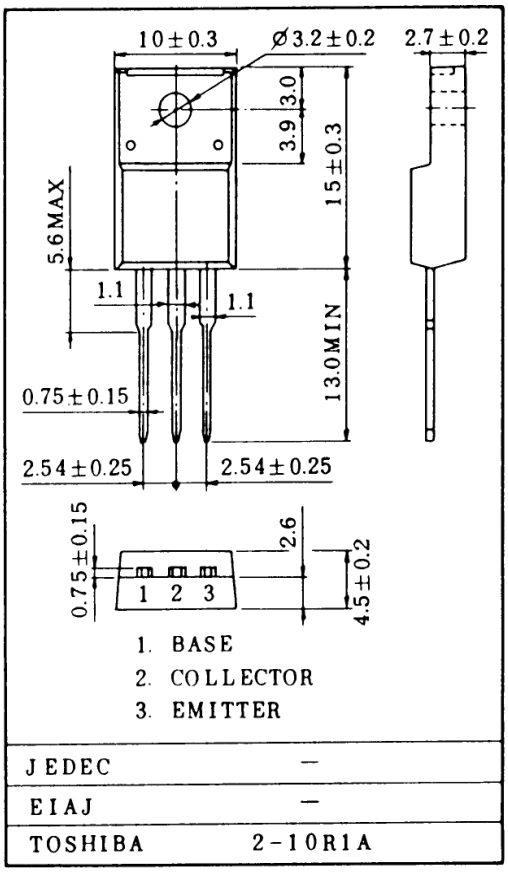
Features

- High Transistion: f_T = 100MHz
- Complementary to 2SA1837

Absolute Maximum Ratings (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	230	V
Collector-Emitter Voltage		V_{CEO}	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	Ta = 25°C	P_C	2.0	mW
	Tc = 25°C		20	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	-55 ~ 125	°C

Unit in mm

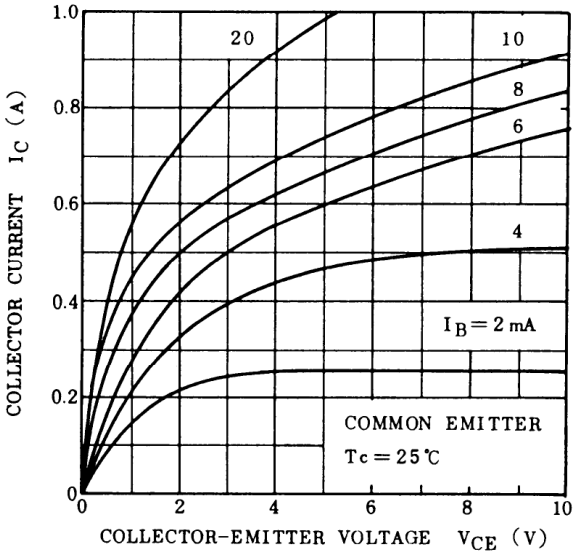


Weight : 1.7g

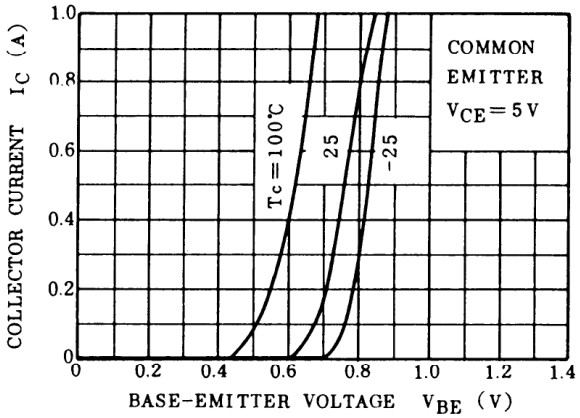
Electrical Characteristics (Ta = 25°C)

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

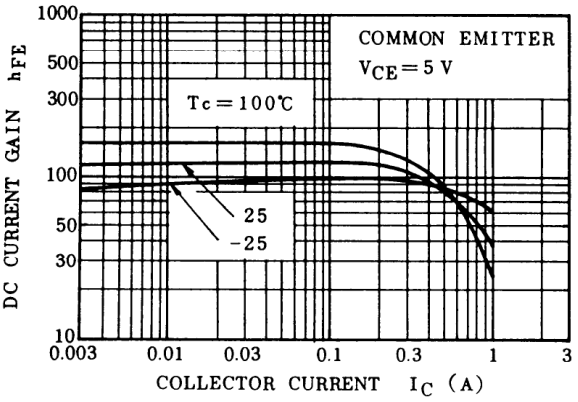
$I_C - V_{CE}$



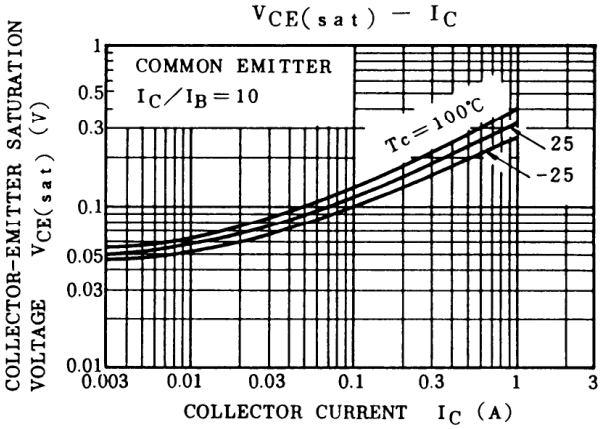
$I_C - V_{BE}$



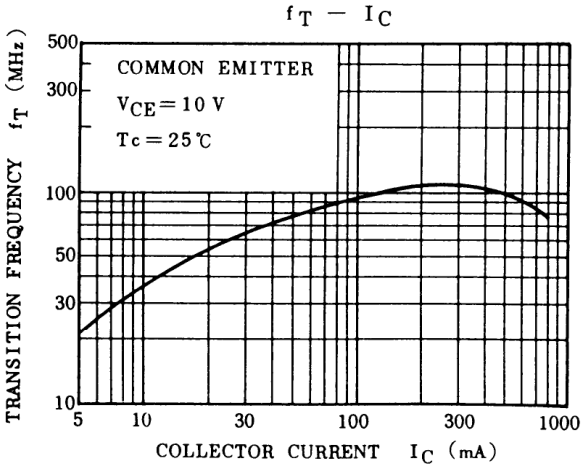
$h_{FE} - I_C$



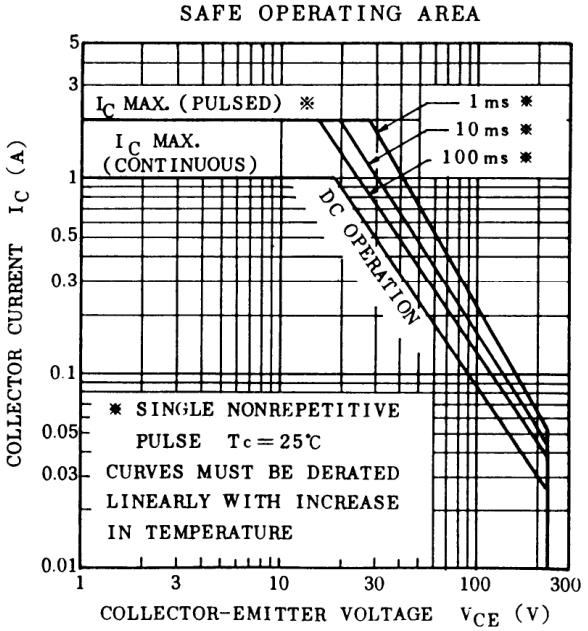
$V_{CE(sat)} - I_C$



$f_T - I_C$



SAFE OPERATING AREA



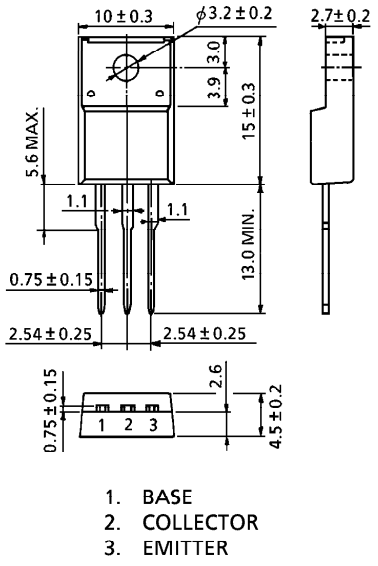
TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE

2SA1837

POWER AMPLIFIER APPLICATIONS
DRIVER STAGE AMPLIFIER APPLICATIONS

- High Transition Frequency : f_T = 70MHz (Typ.)
- Complementary to 2SC4793

Unit in mm



1. BASE
2. COLLECTOR
3. EMITTER

JEDEC	—
EIAJ	—
TOSHIBA	2-10R1A

Weight : 1.7g

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	−230	V
Collector-Emitter Voltage		V_{CEO}	−230	V
Emitter-Base Voltage		V_{EBO}	−5	V
Collector Current		I_C	−1	A
Base Current		I_B	−0.1	A
Collector Power Dissipation	Ta = 25°C	P_C	2.0	W
	Tc = 25°C		20	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

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

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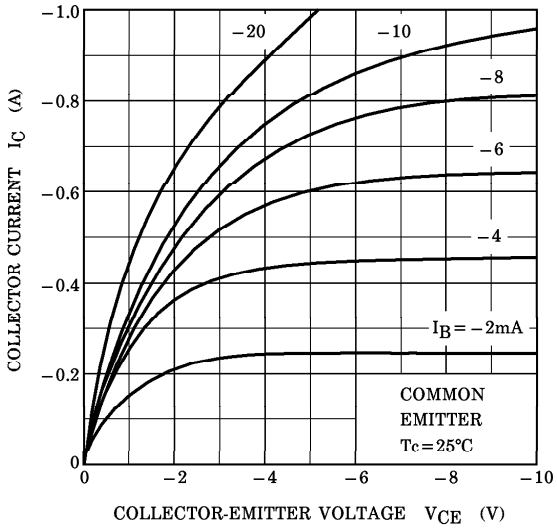
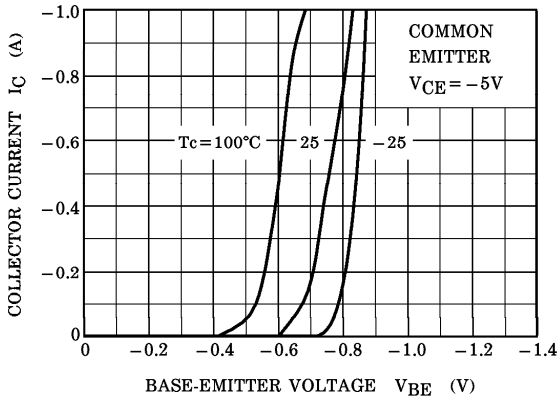
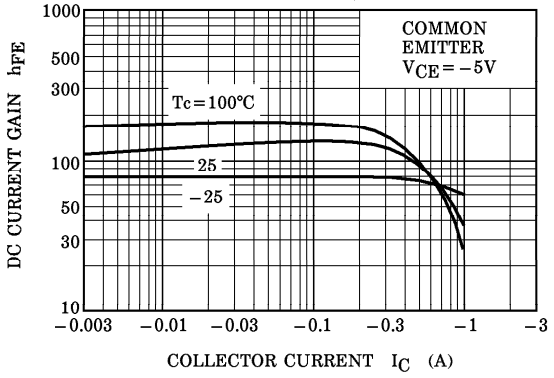
I_C – V_{CE}



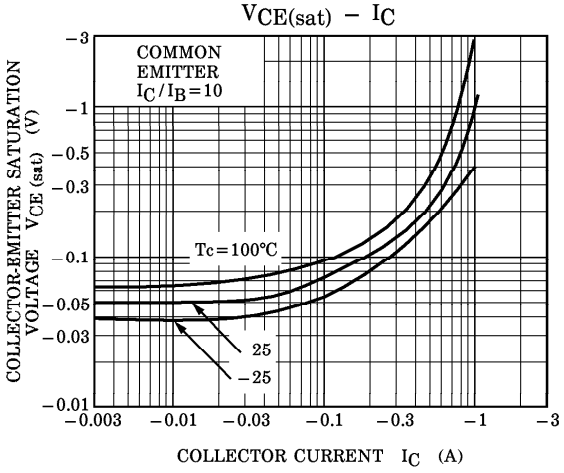
I_C – V_{BE}



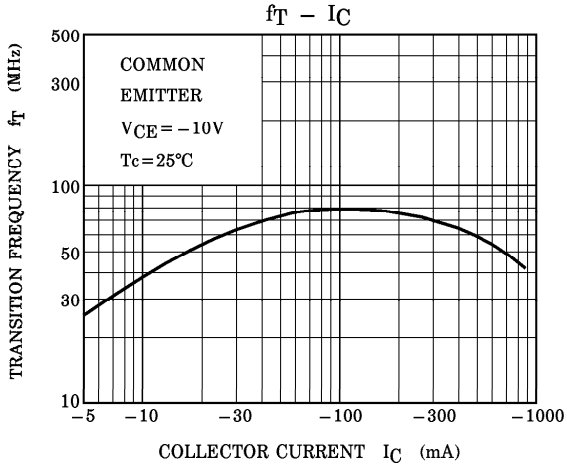
h_{FE} – I_C



$V_{CE(sat)}$ – I_C



f_T – I_C



SAFE OPERATING AREA