

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

2SC1815

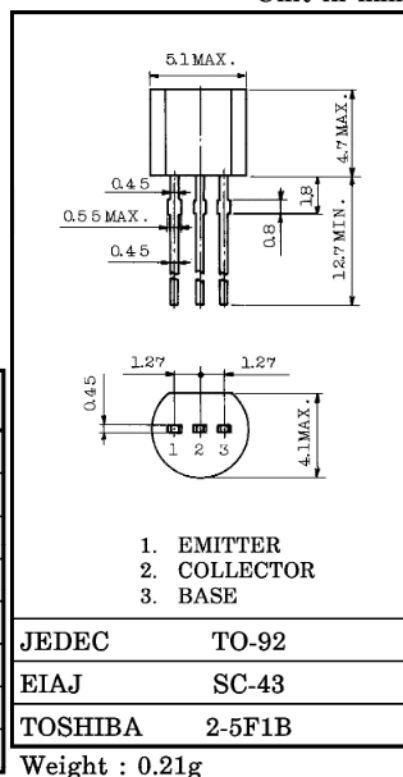
AUDIO FREQUENCY GENERAL PURPOSE AMPLIFIER APPLICATIONS.
DRIVER STAGE AMPLIFIER APPLICATIONS.

Unit in mm

- High Voltage and High Current
: $V_{CEO}=50V$ (Min.), $I_C=150mA$ (Max.)
- Excellent h_{FE} Linearity
: $h_{FE(2)}=100$ (Typ.) at $V_{CE}=6V$, $I_C=150mA$
: $h_{FE}(I_C=0.1mA) / h_{FE}(I_C=2mA)=0.95$ (Typ.)
- Low Noise : $NF=1dB$ (Typ.) at $f=1kHz$
- Complementary to 2SA1015 (O, Y, GR class)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	150	mA
Base Current	I_B	50	mA
Collector Power Dissipation	P_C	400	mW
Junction Temperature	T_j	125	$^\circ C$
Storage Temperature Range	T_{stg}	$-55 \sim 125$	$^\circ C$

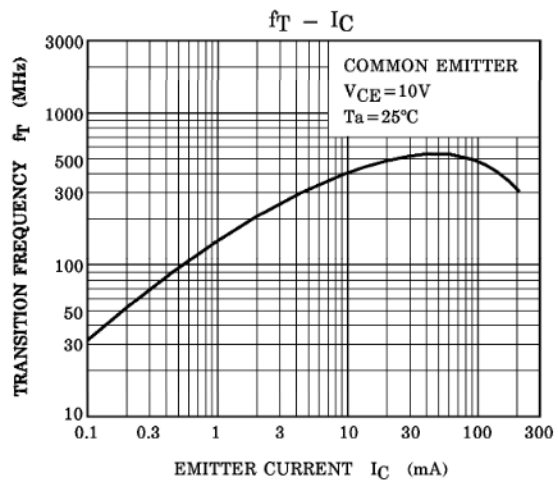
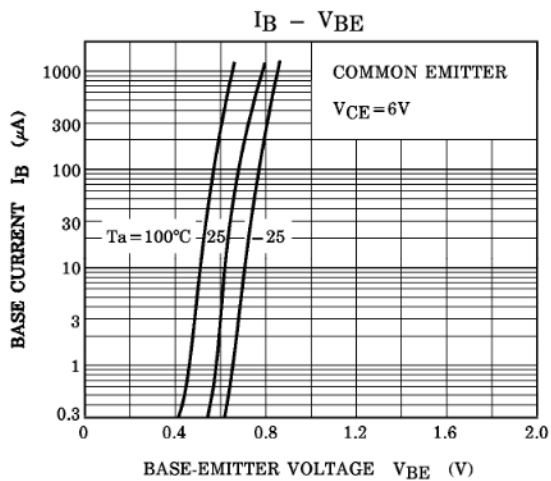
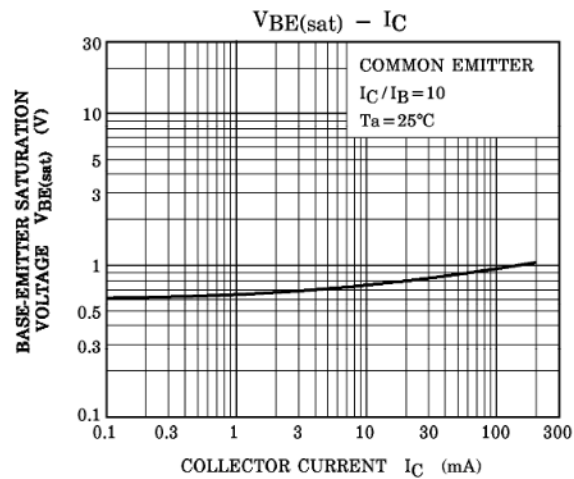
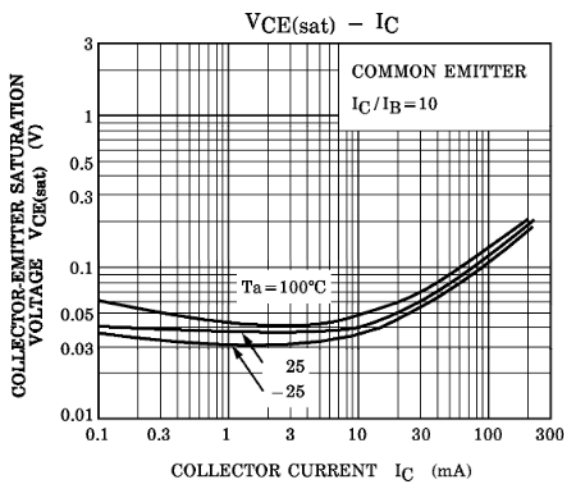
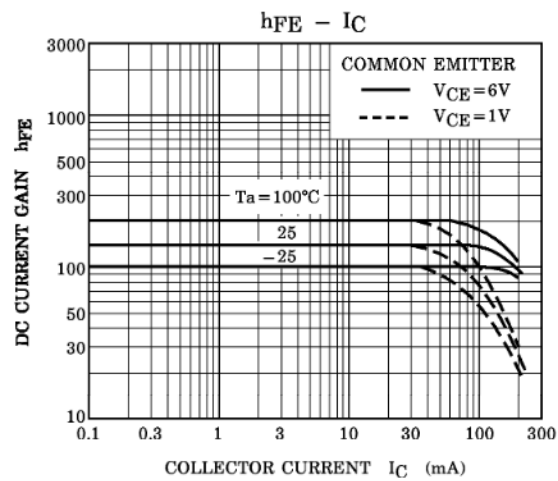
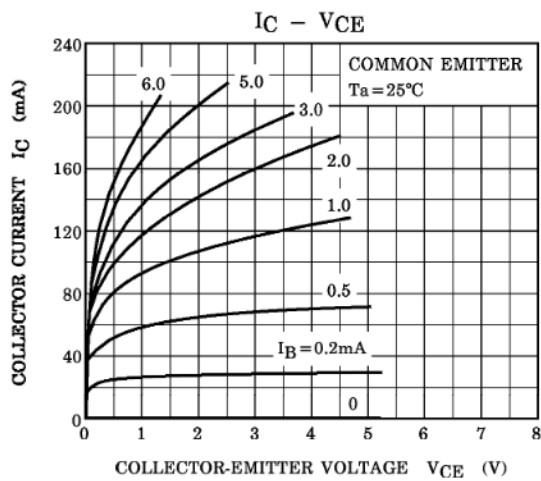
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB}=60V$, $I_E=0$	—	—	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB}=5V$, $I_C=0$	—	—	0.1	μA
DC Current Gain	$h_{FE(1)}$ (Note)	$V_{CE}=6V$, $I_C=2mA$	70	—	700	
	$h_{FE(2)}$	$V_{CE}=6V$, $I_C=150mA$	25	100	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100mA$, $I_B=10mA$	—	0.1	0.25	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100mA$, $I_B=10mA$	—	—	1.0	V
Transition Frequency	f_T	$V_{CE}=10V$, $I_C=1mA$	80	—		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$, $I_E=0$, $f=1MHz$	—	2.0	3.5	pF
Base Intrinsic Resistance	$r_{bb'}$	$V_{CE}=10V$, $I_E=-1mA$ $f=30MHz$	—	50	—	Ω
Noise Figure	NF	$V_{CE}=6V$, $I_C=0.1mA$ $f=1kHz$, $R_G=10k\Omega$	—	1.0	10	dB

Note : h_{FE} Classification 0 : 70~140 Y : 120~240 GR : 200~400 BL : 350~700

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