TOSHIBA 2SC1815

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

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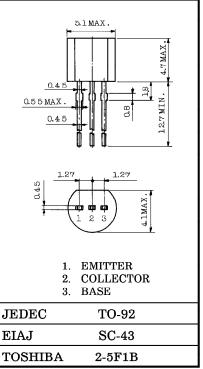
AUDIO FREQUENCY GENERAL PURPOSE AMPLIFIER APPLICATIONS. DRIVER STAGE AMPLIFIER APPLICATIONS.

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

MAXIMUM RATINGS (Ta = 25°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	$I_{\mathbf{C}}$	150	mA	
Base Current	$I_{\mathbf{B}}$	50	mA	
Collector Power Dissipation	PC	400	mW	
Junction Temperature	T_{j}	125	°C	
Storage Temperature Range	$\mathrm{T_{stg}}$	-55~125	$^{\circ}\mathrm{C}$	

Unit in mm



Weight: 0.21g

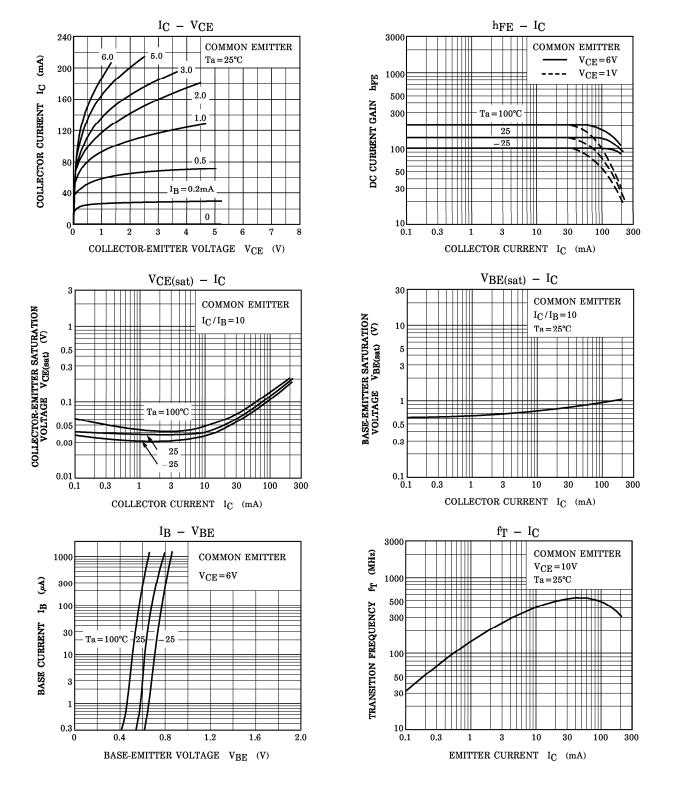
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 60V, I_{E} = 0$	_	_	0.1	μ A
Emitter Cut-off Current	I_{EBO}	$V_{EB}=5V$, $I_C=0$			0.1	μ A
DC Current Gain	h _{FE(1)} (Note)	$V_{\text{CE}}=6V, I_{\text{C}}=2\text{mA}$	70	_	700	
	$h_{FE(2)}$	$V_{\text{CE}}=6V, I_{\text{C}}=150\text{mA}$	25	100	_	
Collector-Emitter Saturation Voltage	V _{CE(sat)}	$I_{C} = 100 \text{mA}, I_{B} = 10 \text{mA}$		0.1	0.25	v
Base-Emitter Saturation Voltage	$V_{\mathrm{BE}(\mathrm{sat})}$	$I_C = 100 \text{mA}, I_B = 10 \text{mA}$	_	_	1.0	V
Transition Frequency	$ m f_{T}$	$V_{\text{CE}} = 10V, I_{\text{C}} = 1\text{mA}$	80	_		MHz
Collector Ouput Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	_	2.0	3.5	pF
Base Intrinsic Resistance	rbb'	$V_{\text{CE}} = 10V, I_{\text{E}} = -1\text{mA}$ f=30MHz		50		Ω
Noise Figure	NF	$V_{ ext{CE}}\!=\!6 ext{V}, \ I_{ ext{C}}\!=\!0.1 ext{mA} \ f\!=\!1 ext{kHz}, \ R_{ ext{G}}\!=\!10 ext{k}\Omega$	_	1.0	10	dB

Note: hFE Classification 0:70~140 Y:120~240 GR:200~400 BL:350~700

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