Unit in mm

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2 S C 5 1 9 9

POWER AMPLIFIER APPLICATIONS

- Complementary to 2SA1942
- Recommend for 80 W High Fidelity Audio Frequency Amplifier Output Stage.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	v_{CBO}	160	V
Collector-Emitter Voltage	v_{CEO}	160	V
Emitter-Base Voltage	$V_{ m EBO}$	5	V
Collector Current	$_{ m I_C}$	12	A
Base Current	$I_{\mathbf{B}}$	1.2	A
Collector Power Dissipation (Tc = 25°C)	$P_{\mathbf{C}}$	120	W
Junction Temperature	$T_{ m j}$	150	°C
Storage Temperature Range	$\mathrm{T_{stg}}$	-55~150	$^{\circ}\mathrm{C}$

2-21F1A

Weight: 9.75 g

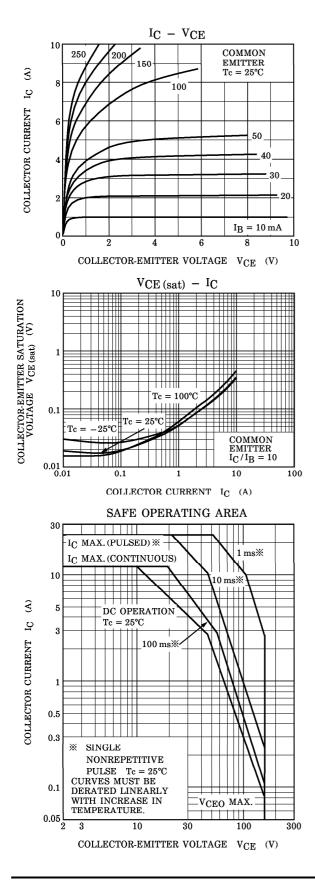
TOSHIBA

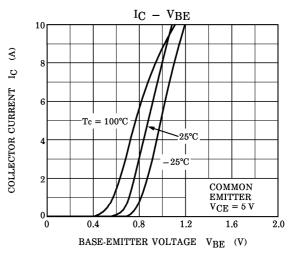
ELECTRICAL CHARACTERISTICS (Tc = 25°C)

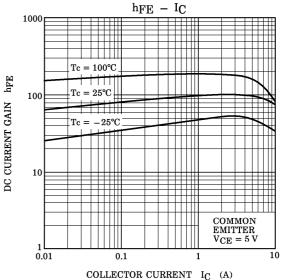
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 160 \text{ V}, I_{E} = 0$	_	_	5.0	μ A
Emitter Cut-off Current	$I_{ m EBO}$	$V_{EB} = 5 V, I_{C} = 0$	_	_	5.0	μ A
Collector-Emitter Breakdown Voltage	V (BR) CEO	$I_{\rm C}=50\mathrm{mA},~I_{\rm B}=0$	160	_	_	V
DC Current Gain	hFE (1) (Note)	$V_{ m CE} = 5 m V, I_{ m C} = 1 m A$	55	_	160	
	hFE (2)	$V_{CE} = 5 V, I_{C} = 6 A$	35	74	_	
Collector-Emitter Saturation Voltage	V _{CE} (sat)	$I_{\rm C} = 8 {\rm A}, \; I_{\rm B} = 0.8 {\rm A}$	_	0.35	2.5	V
Base-Emitter Voltage	$ m V_{BE}$	$V_{CE} = 5 \text{ V}, I_{C} = 6 \text{ A}$	_	1.0	1.5	V
Transition Frequency	$ m f_{T}$	$V_{CE} = 5 \text{ V}, I_{C} = 1 \text{ A}$	_	30	_	MHz
Collector Output Capacitance	$C_{ m ob}$	$V_{CB} = 10 \text{ V}, I_{E} = 0, f = 1 \text{ MHz}$	_	170	_	pF

(Note): $h_{FE(1)}$ Classification R: 55~110, O: 80~160

1 2001-08-23







2 2001-08-23

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