

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

2SC5171

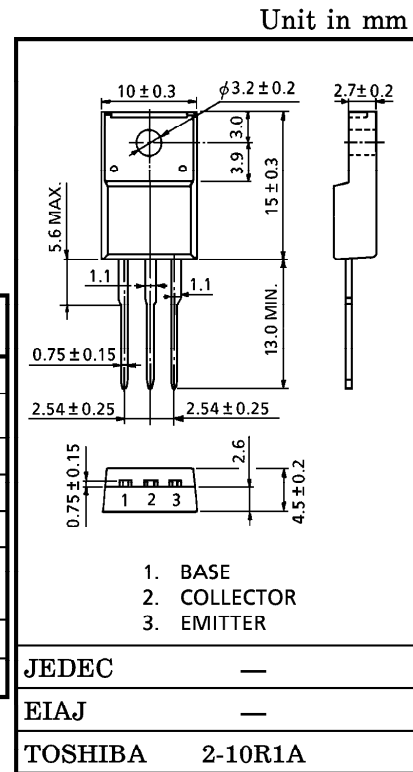
POWER AMPLIFIER APPLICATIONS

DRIVER STAGE AMPLIFIER APPLICATIONS

- High Transition Frequency : $f_T=200\text{MHz}$ (Typ.)
- Complementary to 2SA1930

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CB0}	180	V
Collector-Emitter Voltage		V_{CEO}	180	V
Emitter-Base Voltage		V_{EB0}	5	V
Collector Current		I_C	2	A
Base Current		I_B	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	$^\circ\text{C}$



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

Weight : 1.7g (Typ.)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = 180\text{V}, I_E = 0$	—	—	5.0	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$	—	—	5.0	μA
Collector-Emitter Breakdown Voltage	$V_{(BR) CEO}$	$I_C = 10\text{mA}, I_B = 0$	180	—	—	V
DC Current Gain	$h_{FE} (1)$	$V_{CE} = 5\text{V}, I_C = 0.1\text{A}$	100	—	320	
	$h_{FE} (2)$	$V_{CE} = 5\text{V}, I_C = 1\text{A}$	50	—	—	
Collector-Emitter Saturation Voltage	$V_{CE} (\text{sat})$	$I_C = 1\text{A}, I_B = 0.1\text{A}$	—	0.16	1.0	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = 5\text{V}, I_C = 1\text{A}$	—	0.68	1.5	V
Transition Frequency	f_T	$V_{CE} = 5\text{V}, I_C = 0.3\text{A}$	—	200	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	—	16	—	pF

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