

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

# 2SC2983

POWER AMPLIFIER APPLICATIONS

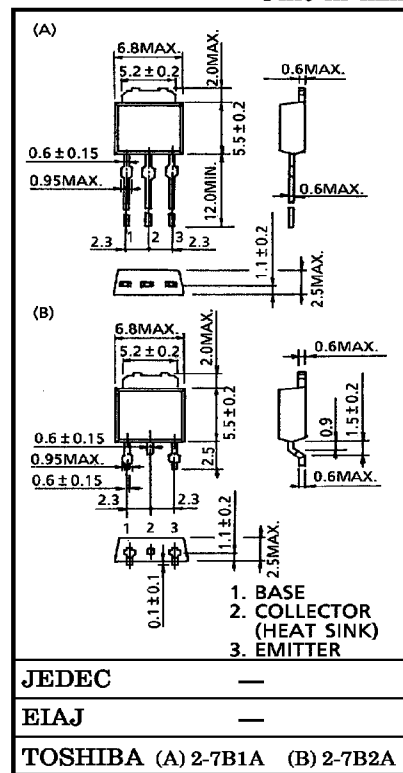
DRIVER STAGE AMPLIFIER APPLICATIONS

- High Transition Frequency :  $f_T = 100 \text{ MHz}$  (Typ.)
- Complementary to 2SA1225

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CB0}$	160	V
Collector-Emitter Voltage		$V_{CEO}$	160	V
Emitter-Base Voltage		$V_{EBO}$	5	V
Collector Current		$I_C$	1.5	A
Base Current		$I_B$	0.3	A
Collector Power Dissipation	$T_a = 25^\circ\text{C}$	$P_C$	1.0	W
	$T_c = 25^\circ\text{C}$		15	
Junction Temperature		$T_j$	150	$^\circ\text{C}$
Storage Temperature Range		$T_{stg}$	-55~150	$^\circ\text{C}$

Unit in mm



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

Weight : 0.36 g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 160 \text{ V}, I_E = 0$	—	—	1.0	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 5 \text{ V}, I_C = 0$	—	—	1.0	$\mu\text{A}$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10 \text{ mA}, I_B = 0$	160	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 1 \text{ mA}, I_C = 0$	5	—	—	V
DC Current Gain	$h_{FE}$ (Note)	$V_{CE} = 5 \text{ V}, I_C = 100 \text{ mA}$	70	—	240	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$	—	—	1.5	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE} = 5 \text{ V}, I_C = 500 \text{ mA}$	—	—	1.0	V
Transition Frequency	$f_T$	$V_{CE} = 10 \text{ V}, I_C = 100 \text{ mA}$	—	100	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	—	25	—	pF

Note :  $h_{FE}$  Classification O : 70~140, Y : 120~240

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1999-06-16 1/2

