

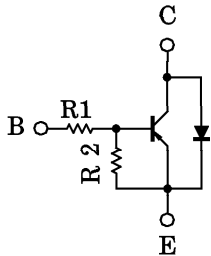
TENTATIVE TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

# RN2357

DRIVER CIRCUIT, INVERTER CIRCUIT, AND SWITCHING APPLICATIONS.

- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process
- RN2307 and a diode are included in a SC-70 package.

EQUIVALENT CIRCUIT (TOP VIEW)



BIAS RESISTOR VALUES

R1 (kΩ)	R2 (kΩ)
10	47

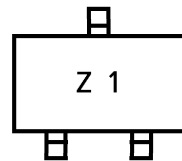
Unit in mm

USM	—
JEDEC	—
EIAJ	SC-70
TOSHIBA	2-2E1A

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V <sub>CB0</sub>	-50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	-50	V
Emitter-Base Voltage	V <sub>EB0</sub>	-6	V
Collector Current	I <sub>C</sub>	-100	mA
Collector Power Dissipation	P <sub>C</sub>	100	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55~150	°C

MARKING



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## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = -50\text{ V}, I_E = 0$	—	—	-0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = -6\text{ V}, I_C = 0$	—	—	-0.2	mA
DC Current Gain	$h_{FE}$	$V_{CE} = -5\text{ V}, I_C = -10\text{ mA}$	80	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -5\text{ mA}, I_B = -0.25\text{ mA}$	—	-0.1	-0.3	V
Input Voltage (ON)	$V_{I(ON)}$	$V_{CE} = -0.2\text{ V}, I_C = -5\text{ mA}$	-0.7	—	-1.8	V
Input Voltage (OFF)	$V_{I(OFF)}$	$V_{CE} = -5\text{ V}, I_C = -0.1\text{ mA}$	-0.5	—	-1.0	V
Transition Frequency	$f_T$	$V_{CE} = -10\text{ V}, I_C = -5\text{ mA}$	—	200	—	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB} = -10\text{ V}, I_E = 0,$ $f = 1\text{ MHz}$	—	3.5	—	pF
Input Resistor	R1	—	7	10	13	k $\Omega$
Resistor Ratio	R1 / R2	—	0.17	0.21	0.25	
Forward Voltage (Damper Diode)	$V_F$	$I_F = 100\text{ mA}$	—	0.98	1.20	V