

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

# 2SA1315

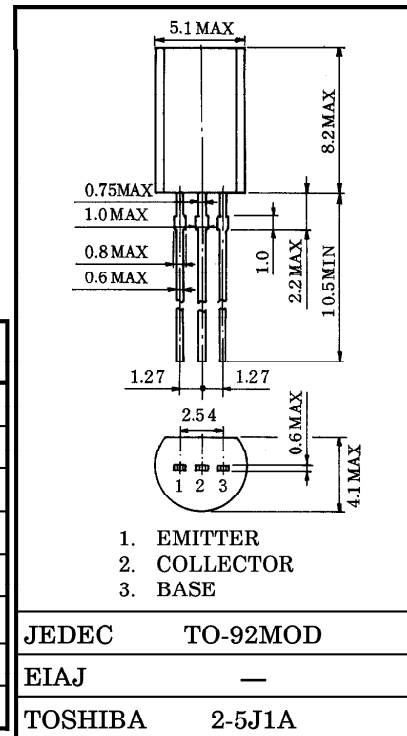
POWER AMPLIFIER APPLICATIONS.  
POWER SWITCHING APPLICATIONS.

INDUSTRIAL APPLICATIONS  
Unit in mm

- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = -0.5V$  (Max.) ( $I_C = -1A$ )
- High Speed Switching Time :  $t_{stg} = 1.0\mu s$  (Typ.)
- Complementary to 2SC3328

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	-80	V
Collector-Emitter Voltage	$V_{CEO}$	-80	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	-2	A
Base Current	$I_B$	1	A
Collector Power Dissipation	$P_C$	900	mW
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$



Weight : 0.36g

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V <sub>CB</sub> = -80V, I <sub>E</sub> = 0	—	—	-1.0	μA
Emitter Cut-off Current		I <sub>EBO</sub>	V <sub>EB</sub> = -5V, I <sub>C</sub> = 0	—	—	-1.0	μA
Collector-Emitter Breakdown Voltage		V <sub>(BR)CEO</sub>	I <sub>C</sub> = -10mA, I <sub>B</sub> = 0	-80	—	—	V
DC Current Gain	h <sub>FE(1)</sub> (Note)		V <sub>CE</sub> = -2V, I <sub>C</sub> = -0.5A	70	—	240	
	h <sub>FE(2)</sub>		V <sub>CE</sub> = -2V, I <sub>C</sub> = -1.5A	40	—	—	
Collector-Emitter Saturation Voltage		V <sub>CE(sat)</sub>	I <sub>C</sub> = -1A, I <sub>B</sub> = -0.05A	—	-0.2	-0.5	V
Base-Emitter Saturation Voltage		V <sub>BE(sat)</sub>	I <sub>C</sub> = -1A, I <sub>B</sub> = -0.05A	—	-0.9	-1.2	V
Transition Frequency		f <sub>T</sub>	V <sub>CE</sub> = -2V, I <sub>C</sub> = -0.5A	—	80	—	MHz
Collector Output Capacitance		C <sub>ob</sub>	V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f = 1MHz	—	45	—	pF
Switching Time	Turn-on Time	t <sub>on</sub>	<p> <math>-I_{B1} = I_{B2} = 0.05A</math>  DUTY CYCLE ≤ 1%  V<sub>CC</sub> = -30V </p>	—	0.2	—	μs
	Storage Time	t <sub>stg</sub>		—	1.0	—	
	Fall Time	t <sub>f</sub>		—	0.2	—	

Note : h<sub>FE(1)</sub> Classification    O : 70~140,    Y : 120~240

