

TOSHIBA TRANSISTOR SILICON PNP TRIPLE DIFFUSED TYPE (PCT PROCESS)

# 2SB1018A

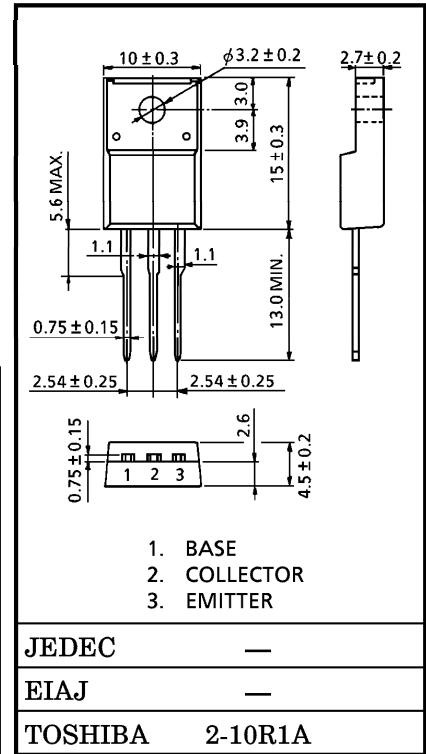
HIGH CURRENT SWITCHING APPLICATIONS

INDUSTRIAL APPLICATIONS

POWER AMPLIFIER APPLICATIONS

Unit in mm

- High Collector Current :  $I_C = -7\text{ A}$
- Low Collector Saturation Voltage :  $V_{CE(sat)} = -0.5\text{ V (Max.)}$  ( $I_C = -4\text{ A}$ )
- Complementary to 2SD1411A



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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	-100	V
Collector-Emitter Voltage	$V_{CEO}$	-80	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Collector Current	$I_C$	-7	A
Base Current	$I_B$	-1	A
Collector Power Dissipation	$P_C$	2.0	W
		30	
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ\text{C}$

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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> = -100 V, I <sub>E</sub> = 0	—	—	-5	μA
Emitter Cut-off Current		IEBO	V <sub>EB</sub> = -5 V, I <sub>C</sub> = 0	—	—	-5	μA
Collector-Emitter Breakdown Voltage		V (BR) CEO	I <sub>C</sub> = -50 mA, I <sub>B</sub> = 0	-80	—	—	V
DC Current Gain		h <sub>FE</sub> (1) (Note)	V <sub>CE</sub> = -1 V, I <sub>C</sub> = -1 A	70	—	240	
		h <sub>FE</sub> (2)	V <sub>CE</sub> = -1 V, I <sub>C</sub> = -4 A	30	—	—	
Saturation Voltage	Collector-Emitter	V <sub>CE</sub> (sat)	I <sub>C</sub> = -4 A, I <sub>B</sub> = -0.4 A	—	-0.3	-0.5	V
	Base-Emitter	V <sub>BE</sub> (sat)	I <sub>C</sub> = -4 A, I <sub>B</sub> = -0.4 A	—	-0.9	-1.4	
Transition Frequency		f <sub>T</sub>	V <sub>CE</sub> = -4 V, I <sub>C</sub> = -1 A	—	10	—	MHz
Collector Output Capacitance		C <sub>ob</sub>	V <sub>CB</sub> = -10 V, I <sub>E</sub> = 0, f = 1 MHz	—	250	—	pF
Switching Time	Turn-on Time	t <sub>on</sub>	<p>20 μs INPUT I<sub>B2</sub> I<sub>B1</sub> OUTPUT 100 pF V<sub>CC</sub> = -30 V DUTY CYCLE ≤ 1%</p>	—	0.4	—	μs
	Storage Time	t <sub>stg</sub>		—	2.5	—	
	Fall Time	t <sub>f</sub>		-I <sub>B1</sub> = I <sub>B2</sub> = 0.3 A, DUTY CYCLE ≤ 1%	—	0.5	

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

