

TOSHIBA TRANSISTOR SILICON PNP TRIPLE DIFFUSED TYPE (PCT PROCESS)

# 2SB1018A

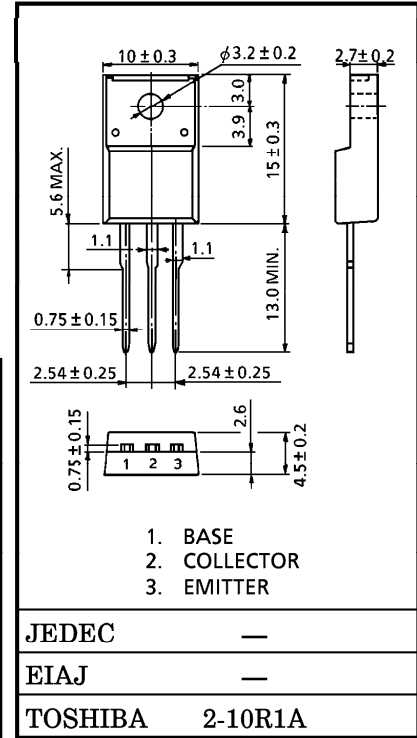
HIGH CURRENT SWITCHING APPLICATIONS  
POWER AMPLIFIER APPLICATIONS

INDUSTRIAL APPLICATIONS  
Unit in mm

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

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

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	$T_a = 25^\circ C$	$P_C$	2.0	W
	$T_c = 25^\circ C$		30	
Junction Temperature		$T_j$	150	$^\circ C$
Storage Temperature Range		$T_{stg}$	-55~150	$^\circ C$



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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB} = -100V, I_E = 0$	—	—	-5	$\mu A$
Emitter Cut-off Current		$I_{EBO}$	$V_{EB} = -5V, I_C = 0$	—	—	-5	$\mu A$
Collector-Emitter Breakdown Voltage		$V_{(BR) CEO}$	$I_C = -50mA, I_B = 0$	-80	—	—	V
DC Current Gain		$h_{FE(1)}$ (Note)	$V_{CE} = -1V, I_C = -1A$	70	—	240	
		$h_{FE(2)}$	$V_{CE} = -1V, I_C = -4A$	30	—	—	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	$I_C = -4A, I_B = -0.4A$	—	-0.3	-0.5	V
	Base-Emitter	$V_{BE(sat)}$	$I_C = -4A, I_B = -0.4A$	—	-0.9	-1.4	
Transition Frequency		$f_T$	$V_{CE} = -4V, I_C = -1A$	—	10	—	MHz
Collector Output Capacitance		$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	250	—	pF
Switching Time	Turn-on Time	$t_{on}$		—	0.4	—	$\mu s$
	Storage Time	$t_{stg}$		—	2.5	—	
	Fall Time	$t_f$		$-I_{B1} = I_{B2} = 0.3A,$ DUTY CYCLE $\leq 1\%$	—	0.5	

(Note)  $h_{FE(1)}$  Classification    O : 70~140,    Y : 120~240

