

**TOSHIBA**

**2SC3074**

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

# 2SC3074

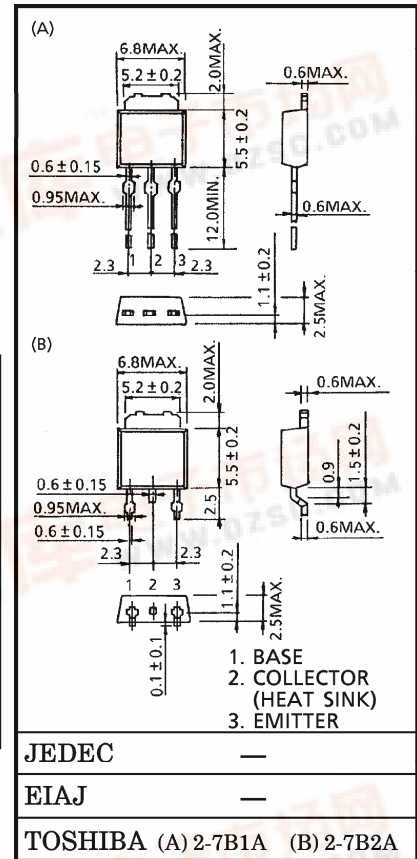
HIGH CURRENT SWITCHING APPLICATIONS

- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = 0.4\text{ V (Max.) (at } I_C = 3\text{ A)}$
- High Speed Switching Time :  $t_{stg} = 1.0\ \mu\text{s (Typ.)}$
- Complementary to 2SA1244

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CB0}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	5	A
Base Current	$I_B$	1	A
Collector Power Dissipation	$P_C$	$T_a = 25^\circ\text{C}$ 1.0	W
		$T_c = 25^\circ\text{C}$ 20	
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ\text{C}$

Unit in mm



Weight : 0.36 g

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB} = 50\text{ V}, I_E = 0$	—	—	1	$\mu\text{A}$
Emitter Cut-off Current		$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$	—	—	1	$\mu\text{A}$
Collector-Emitter Breakdown Voltage		$V_{(BR) CEO}$	$I_C = 10\text{ mA}, I_B = 0$	50	—	—	V
DC Current Gain		$h_{FE(1)}$ (Note)	$V_{CE} = 1\text{ V}, I_C = 1\text{ A}$	70	—	240	
		$h_{FE(2)}$	$V_{CE} = 1\text{ V}, I_C = 3\text{ A}$	30	—	—	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	$I_C = 3\text{ A}, I_B = 0.15\text{ A}$	—	0.2	0.4	V
	Base-Emitter	$V_{BE(sat)}$	$I_C = 3\text{ A}, I_B = 0.15\text{ A}$	—	0.9	1.2	
Transition Frequency		$f_T$	$V_{CE} = 4\text{ V}, I_C = 1\text{ A}$	—	120	—	MHz
Collector Output Capacitance		$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0,$ $f = 1\text{ MHz}$	—	80	—	pF
Switching Time	Turn-on Time	$t_{on}$	<p> <math>I_{B1} = -I_{B2} = 0.15\text{ A},</math>                      DUTY CYCLE <math>\leq 1\%</math> </p>	—	0.1	—	$\mu\text{s}$
	Storage Time	$t_{stg}$		—	1.0	—	
	Fall Time	$t_f$		—	0.1	—	

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

