

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

# 2SC5076

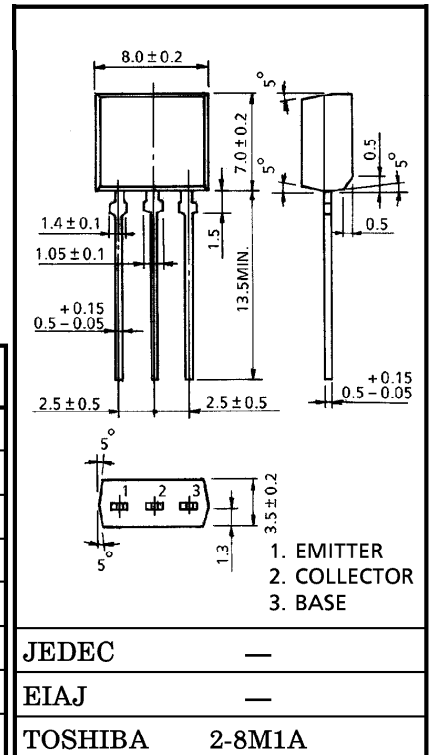
HIGH CURRENT SWITCHING APPLICATIONS

- Low Collector Saturation Voltage :  $V_{CE(sat)}=0.4V$  (Max.)  
(at  $I_C=3A$ )
- High Speed Switching Time :  $t_{stg}=1.0\mu s$  (Typ.)
- Complementary to 2SA1905

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	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	$P_C$	1.3	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$

Unit in mm



Weight : 0.55g

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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> = 50V, I <sub>E</sub> = 0	—	—	1	μA
Emitter Cut-off Current		IEBO	V <sub>EB</sub> = 5V, I <sub>C</sub> = 0	—	—	1	μA
Collector-Emitter Breakdown Voltage		V <sub>(BR)CEO</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> = 0	50	—	—	V
DC Current Gain		h <sub>FE</sub> (1) (Note)	V <sub>CE</sub> = 1V, I <sub>C</sub> = 1A	70	—	240	
		h <sub>FE</sub> (2)	V <sub>CE</sub> = 1V, I <sub>C</sub> = 3A	30	—	—	
Saturation Voltage	Collector-Emitter	V <sub>CE</sub> (sat)	I <sub>C</sub> = 3A, I <sub>B</sub> = 0.15A	—	0.2	0.4	V
	Base-Emitter	V <sub>BE</sub> (sat)	I <sub>C</sub> = 3A, I <sub>B</sub> = 0.15A	—	0.9	1.2	
Transition Frequency		f <sub>T</sub>	V <sub>CE</sub> = 4V, I <sub>C</sub> = 1A	—	120	—	MHz
Collector Output Capacitance		C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 1MHz	—	80	—	pF
Switching Time	Turn-on Time	t <sub>on</sub>		—	0.1	—	μs
	Storage Time	t <sub>stg</sub>		—	1.0	—	
	Fall Time	t <sub>f</sub>		I <sub>B1</sub> = -I <sub>B2</sub> = 0.15A, DUTY CYCLE ≤ 1%	—	0.1	

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

