

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

# 2SC3474

SWITCHING APPLICATIONS

SOLENOID DRIVE APPLICATIONS

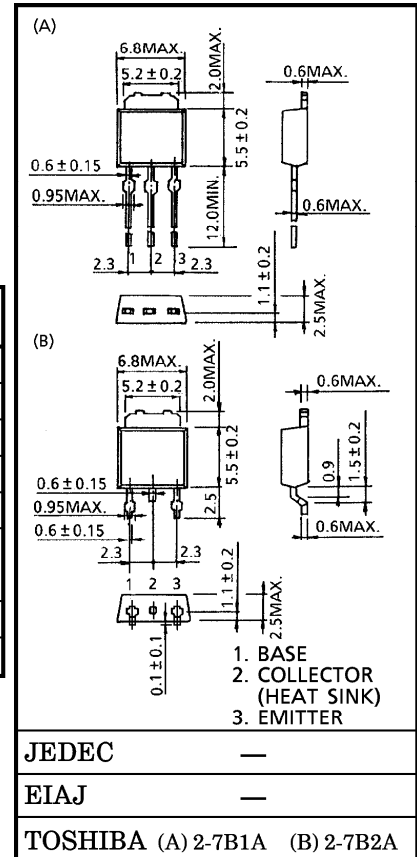
INDUSTRIAL APPLICATIONS

Unit in mm

- High DC Current Gain :  $h_{FE} = 500$  (Min.) ( $I_C = 400$  mA)
- Low Saturation Voltage :  $V_{CE(sat)} = 0.5$  V (Max.) ( $I_C = 300$  mA)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	80	V
Collector-Emitter Voltage	$V_{CEO}$	80	V
Emitter-Base Voltage	$V_{EBO}$	7	V
Collector Current	$I_C$	2	A
Base Current	$I_B$	0.5	A
Collector Power Dissipation	$P_C$	$T_a = 25^\circ\text{C}$	1.0
		$T_c = 25^\circ\text{C}$	20
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ\text{C}$



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		$I_{CBO}$	$V_{CB} = 80\text{ V}, I_E = 0$	—	—	1	$\mu\text{A}$
Emitter Cut-off Current		$I_{EBO}$	$V_{EB} = 7\text{ V}, I_C = 0$	—	—	1	$\mu\text{A}$
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	$I_C = 10\text{ mA}, I_B = 0$	80	—	—	V
DC Current Gain		$h_{FE}$	$V_{CE} = 1\text{ V}, I_C = 400\text{ mA}$	500	—	—	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C = 300\text{ mA}, I_B = 1\text{ mA}$	—	0.3	0.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C = 300\text{ mA}, I_B = 1\text{ mA}$	—	—	1.1	V
Transition Frequency		$f_T$	$V_{CE} = 2\text{ V}, I_C = 100\text{ mA}$	—	85	—	MHz
Collector Output Capacitance		$C_{ob}$	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	50	—	pF
Switching Time	Turn-on Time	$t_{on}$	<p> <math>20\ \mu\text{s}</math>  <math>I_{B1}</math> INPUT <math>I_{B2}</math>              OUTPUT  <math>V_{CC} = 30\text{ V}</math>  <math>100\ \Omega</math>  <math>100\ \Omega</math> </p>	—	2.0	—	$\mu\text{s}$
	Storage Time	$t_{stg}$		—	5.0	—	
	Fall Time	$t_f$		$I_{B1} = -I_{B2} = 1\text{ mA},$ $\text{DUTY CYCLE} \leq 1\%$	—	2.0	

