

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

# 2SA1934

(2SA1934)

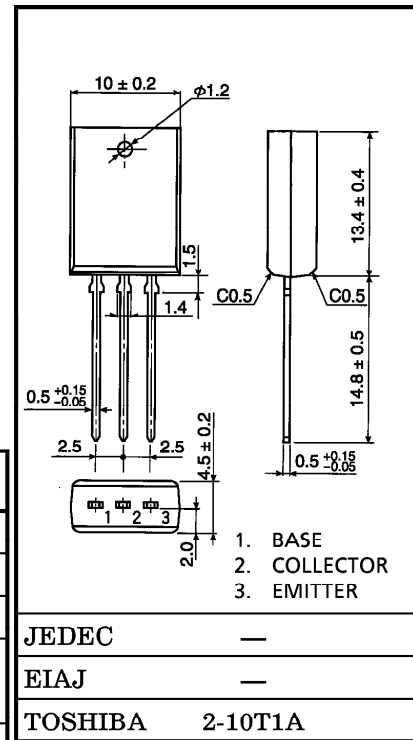
HIGH CURRENT SWITCHING APPLICATIONS  
DC-DC CONVERTER APPLICATIONS

- 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 2SC5176

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	-100	V
Collector-Emitter Voltage	$V_{CEO}$	-80	V
Emitter-Base Voltage	$V_{EBO}$	-7	V
Collector Current	DC	$I_C$	-5
	Pulse	$I_{CP}$	-8
Collector Power Dissipation	$P_C$	1.8	W
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	-55~150	°C

Unit in mm



Weight : 1.5g

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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> = -100V, I <sub>E</sub> = 0	—	—	-1	μA
Emitter Cut-off Current		IEBO	V <sub>EB</sub> = -7V, I <sub>C</sub> = 0	—	—	-1	μA
Collector-Emitter Breakdown Voltage		V (BR) CEO	I <sub>C</sub> = -10mA, I <sub>B</sub> = 0	-80	—	—	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	40	—	—	
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	—	60	—	MHz
Collector Output Capacitance		C <sub>ob</sub>	V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f = 1MHz	—	200	—	pF
Switching Time	Turn-on Time	t <sub>on</sub>	<p> <math>20\mu s</math> INPUT <math>I_{B2}</math> OUTPUT  <math>I_{B1}</math> <math>I_{B2}</math> <math>I_{B1}</math>  <math>V_{CC} = -30V</math>  <math>100\Omega</math>  <math>-I_{B1} = I_{B2} = 0.15A</math>  DUTY CYCLE <math>\leq 1\%</math> </p>	—	0.2	—	μs
	Storage Time	t <sub>stg</sub>		—	1.0	—	
	Fall Time	t <sub>f</sub>		—	0.1	—	

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

