

TOSHIBA TRANSISTOR SILICON PNP TRIPLE DIFFUSED TYPE

# 2SA1937

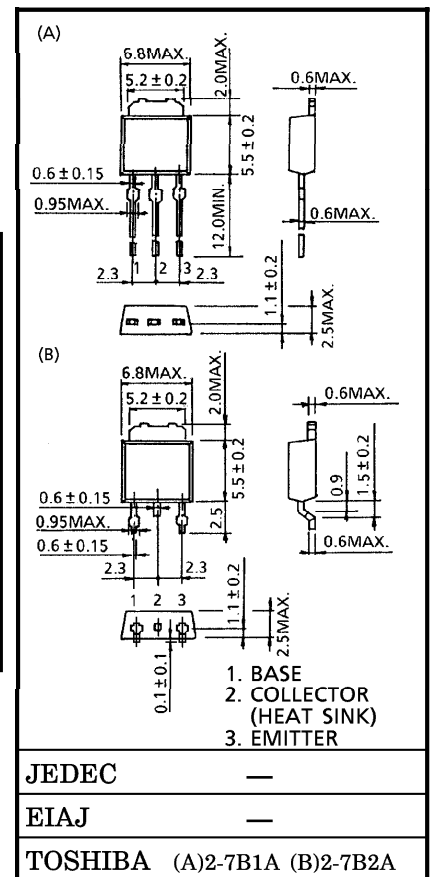
HIGH VOLTAGE SWITCHING APPLICATIONS

単位 : mm

- High Voltage :  $V_{CEO} = -600\text{ V}$

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

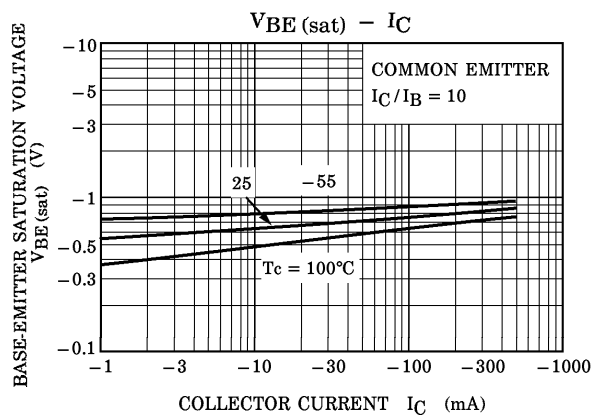
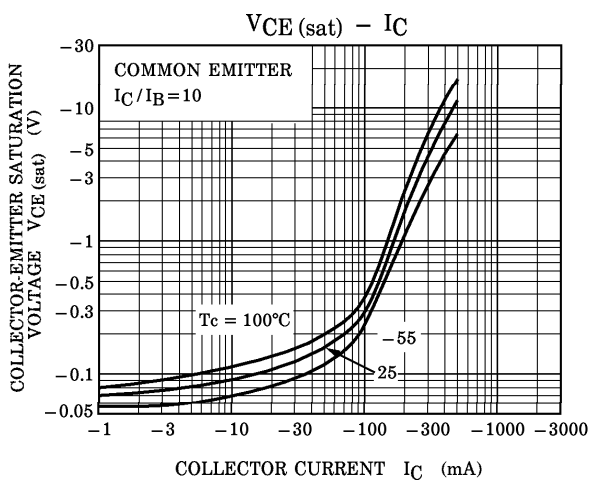
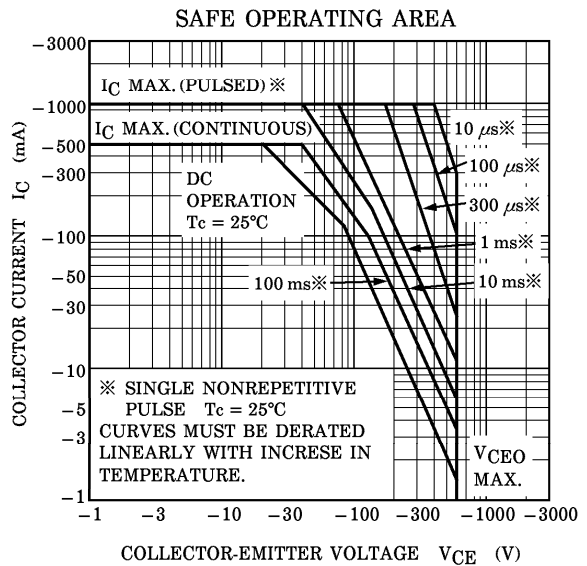
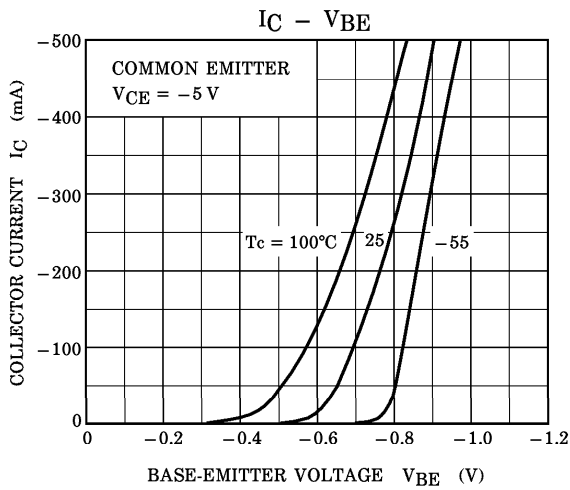
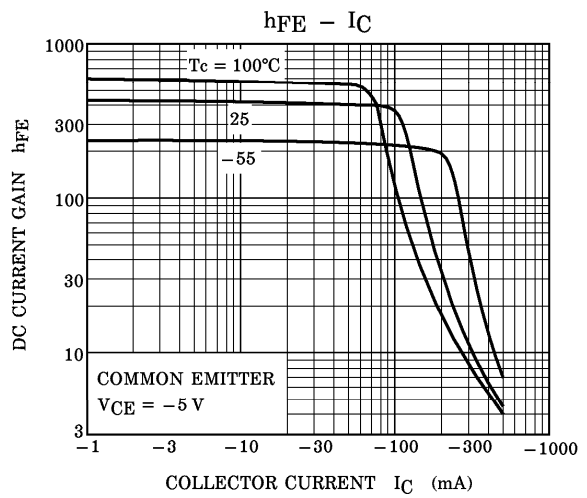
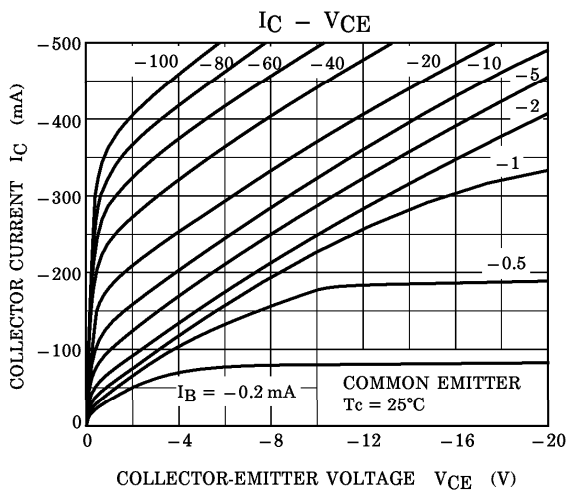
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CBO}$	-600	V
Collector-Emitter Voltage		$V_{CEO}$	-600	V
Emitter-Base Voltage		$V_{EBO}$	-7	V
Collector Current	DC	$I_C$	-0.5	A
	Pulse	$I_{CP}$	-1	
Base Current		$I_B$	-0.25	A
Collector Power Dissipation	$T_a = 25^\circ\text{C}$	$P_C$	1	W
	$T_c = 25^\circ\text{C}$		10	
Junction Temperature		$T_j$	150	$^\circ\text{C}$
Storage Temperature Range		$T_{stg}$	-55~150	$^\circ\text{C}$



Weight : 0.36 g

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current		ICBO	V <sub>CB</sub> = -600 V, I <sub>E</sub> = 0	—	—	-10	μA	
Emitter Cut-off Current		IEBO	V <sub>EB</sub> = -7 V, I <sub>C</sub> = 0	—	—	-1	μA	
Collector-Emitter Breakdown Voltage		V <sub>(BR)CEO</sub>	I <sub>C</sub> = -10 mA, I <sub>B</sub> = 0	-600	—	—	V	
DC Current Gain		h <sub>FE</sub> (1)	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -20 mA	100	—	500		
		h <sub>FE</sub> (2)	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -100 mA	80	—	450		
Collector-Emitter Saturation Voltage		V <sub>CE(sat)</sub>	I <sub>C</sub> = -100 mA, I <sub>B</sub> = -10 mA	—	—	-1.0	V	
Base-Emitter Saturation Voltage		V <sub>BE(sat)</sub>	I <sub>C</sub> = -100 mA, I <sub>B</sub> = -10 mA	—	-0.76	-0.9	V	
Transition Frequency		f <sub>T</sub>	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -50 mA	—	35	—	MHz	
Collector Output Capacitance		C <sub>ob</sub>	V <sub>CB</sub> = -10 V, I <sub>E</sub> = 0, f = 1 MHz	—	24	—	pF	
Switching Time	Turn-on Time	t <sub>on</sub>	<p>20 μs INPUT I<sub>B1</sub> I<sub>B2</sub> OUTPUT 2 kΩ V<sub>CC</sub> = -200 V</p>	—	0.2	—	μs	
	Storage Time	t <sub>stg</sub>		I <sub>B1</sub>	—	2.3	—	μs
	Fall Time	t <sub>f</sub>		I <sub>B1</sub> = -10 mA, I <sub>B2</sub> = 20 mA DUTY CYCLE ≤ 1%	—	0.2	—	μs



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