

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

# 2SA1905

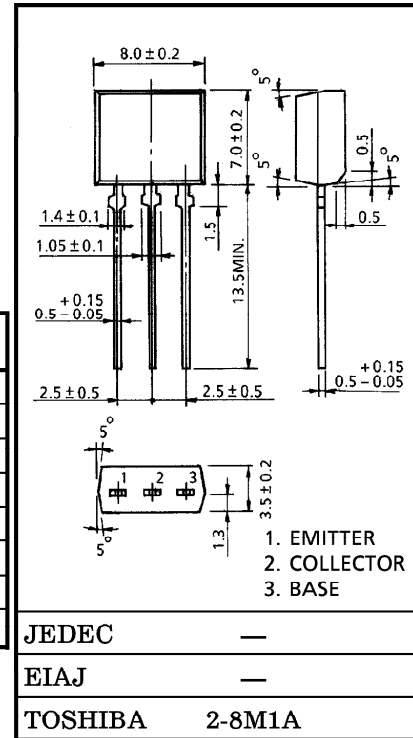
HIGH CURRENT SWITCHING APPLICATIONS

Unit in mm

- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = -0.4V$  (Max.)
- High Speed Switching :  $t_{stg} = 1.0\mu s$  (Typ.)
- Complementary to 2SC5076

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	$^\circ C$



Weight : 0.55g (Typ.)

ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = -50V, I_E = 0$	—	—	-1	$\mu A$	
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$	—	—	-1	$\mu A$	
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-50	—	—	V	
DC Current Gain	$h_{FE(1)}$ (Note)	$V_{CE} = -1V, I_C = -1A$	70	—	240	—	
	$h_{FE(2)}$	$V_{CE} = -1V, I_C = -3A$	30	—	—		
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	$I_C = -3A, I_B = -0.15A$	—	-0.2	-0.4	V
	Base-Emitter	$V_{BE(sat)}$	$I_C = -3A, I_B = -0.15A$	—	-0.9	-1.2	
Transition Frequency	$f_T$	$V_{CE} = -4V, I_C = -1A$	—	60	—	MHz	
Collector Output Capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	170	—	pF	
Switching Time	Turn-on Time	$t_{on}$			—	0.1	—
	Storage Time	$t_{stg}$			—	1.0	$\mu s$
	Fall Time	$t_f$			—	0.1	—

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