

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

2SC5175

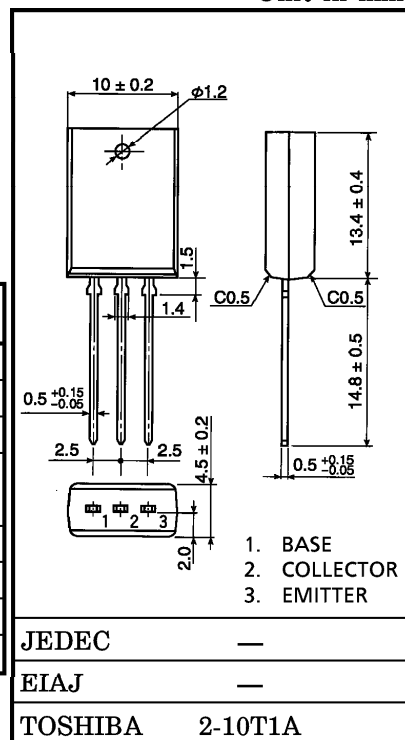
HIGH CURRENT SWITCHING APPLICATIONS

Unit in mm

- Low Saturation Voltage
: $V_{CE(sat)} = 0.4V$ (MAX.) (at $I_C = 2.5A$, $I_B = 125mA$)
- High Speed Switching Time
: $t_{stg} = 0.8\mu s$ (Typ.)

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	DC	I_C	5
	Pulse	I_{CP}	8
Base Current	I_B	1	A
Collector Power Dissipation	P_C	1.8	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$



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

Weight : 1.5g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	I_{CBO}	$V_{CB} = 50V$, $I_E = 0$	—	—	1	μA	
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 6V$, $I_C = 0$	—	—	1	μA	
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10mA$, $I_B = 0$	50	—	—	V	
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 1V$, $I_C = 1A$	100	—	320		
	$h_{FE(2)}$	$V_{CE} = 1V$, $I_C = 2.5A$	60	—	—		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2.5A$, $I_B = 125mA$	—	0.25	0.4	V	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 2.5A$, $I_B = 125mA$	—	1.0	1.3	V	
Transition Frequency	f_T	$V_{CE} = 4V$, $I_C = 1A$	—	100	—	MHz	
Collector Output Capacitance	C_{ob}	$V_{CB} = 10V$, $I_E = 0$, $f = 1MHz$	—	45	—	pF	
Switching Time	Turn-on Time	t_{on}		—	0.1	—	μs
	Storage Time	t_{stg}		—	0.8	—	
	Fall Time	t_f		—	0.1	—	

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