

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

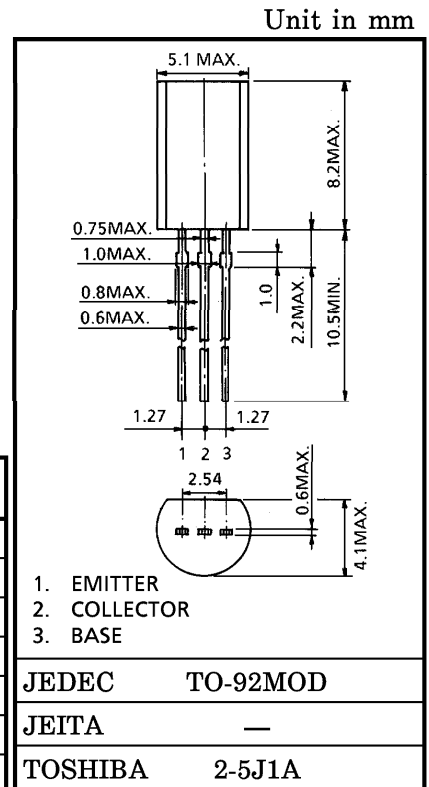
2SC4604

POWER AMPLIFIER APPLICATION.
POWER SWITCHING APPLICATIONS.

- Low Collector-Emitter Saturation Voltage
: $V_{CE(sat)} = 0.5V$ (max.) ($I_C = 1.5A$)
- High Speed Switching : $t_{stg} = 0.5\mu s$ (Typ.)
- Complementary to 2SA1761

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

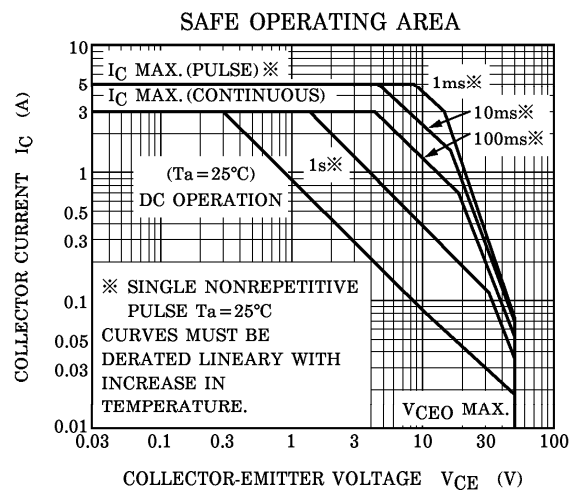
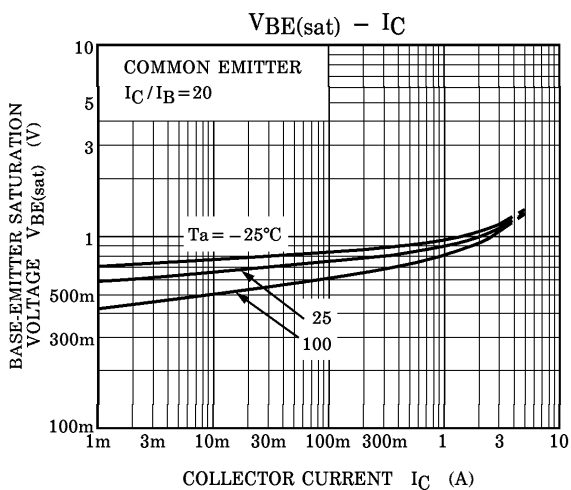
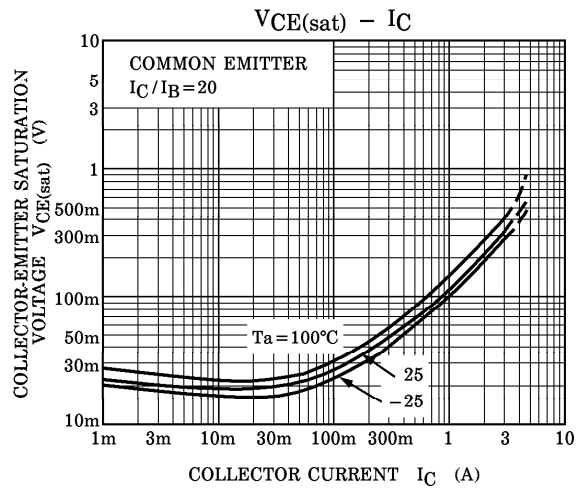
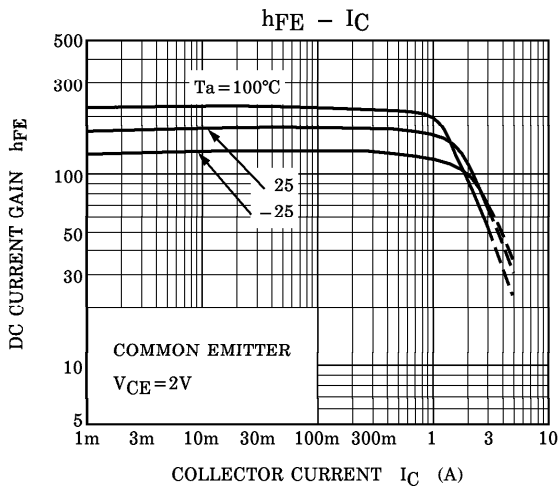
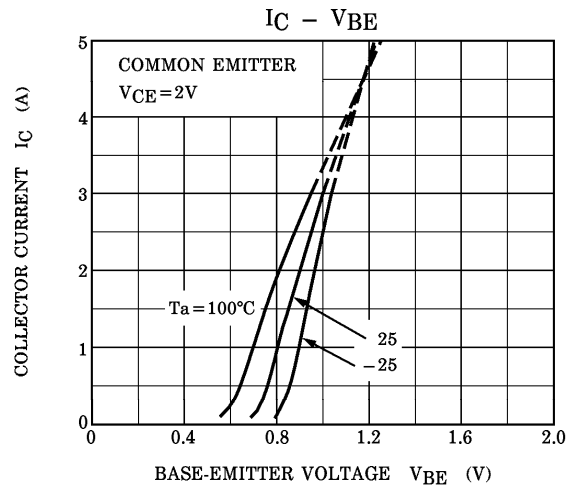
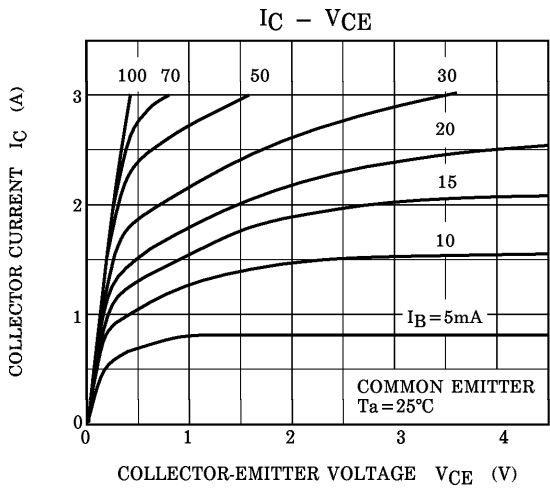
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	80	V
Collector-Emitter Voltage	V_{CE0}	50	V
Emitter-Base Voltage	V_{EB0}	6	V
Collector Current	I_C	3	A
Base Current	I_B	0.6	A
Collector Power Dissipation	P_C	900	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$



Weight : 0.36g (Typ.)

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current	I_{CB0}	$V_{CB} = 80V, I_E = 0$	—	—	0.1	μA	
Emitter Cut-off Current	I_{EB0}	$V_{EB} = 6V, I_C = 0$	—	—	0.1	μA	
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10mA, I_E = 0$	50	—	—	V	
DC Current Gain	$h_{FE(1)}$	$V_{CE} = 2V, I_C = 100mA$	120	—	400		
	$h_{FE(2)}$	$V_{CE} = 2V, I_C = 2A$	40	—	—		
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1.5A, I_B = 75mA$	—	—	0.5	V	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 1.5A, I_B = 75mA$	—	—	1.2	V	
Transition Frequency	f_T	$V_{CE} = 2V, I_C = 100mA$	—	100	—	MHz	
Collector Output Capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	20	—	pF	
Switching Time	Turn-on Time	t_{on}			—	0.1	μs
	Storage Time	t_{stg}			—	0.5	
	Fall Time	t_f	$I_{B1} = -I_{B2} = 75mA$ DUTY CYCLE $\leq 1\%$		—	0.1	



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