

TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

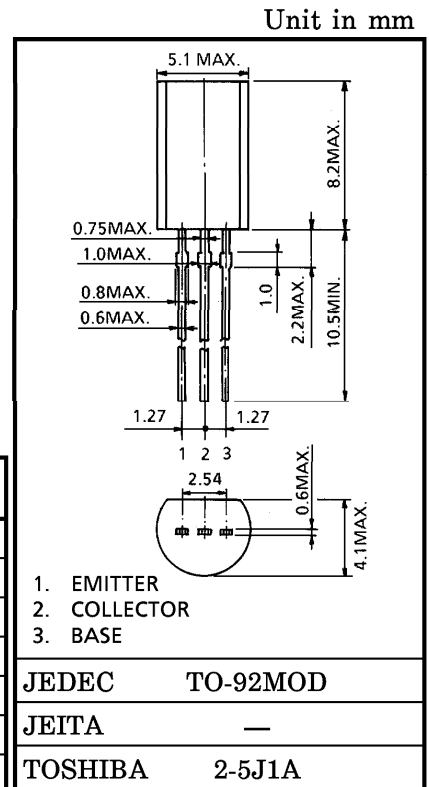
# 2SC4604

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 ( $T_a = 25^\circ C$ )

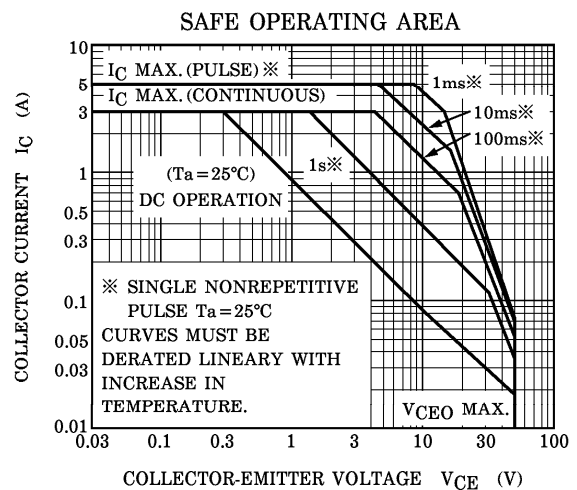
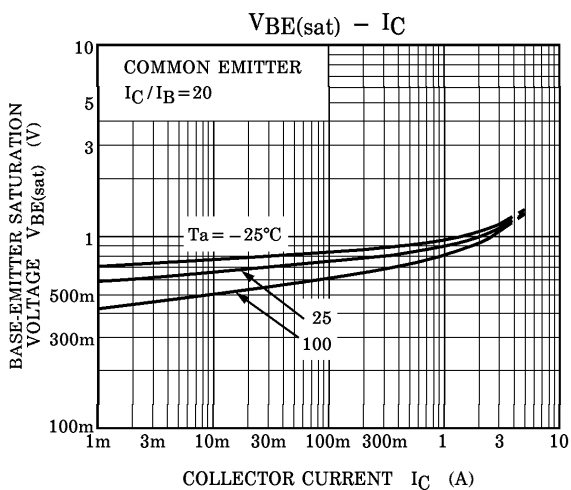
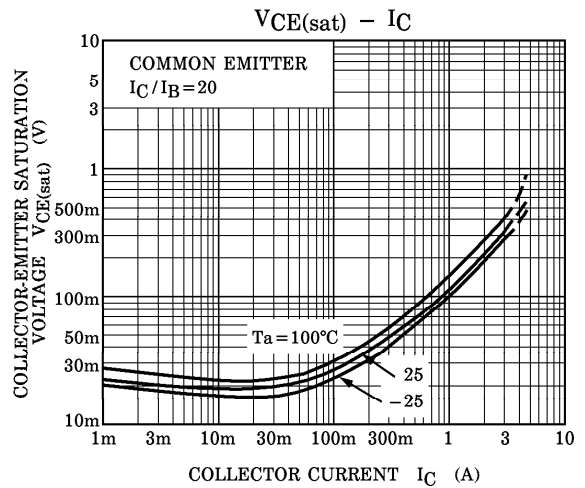
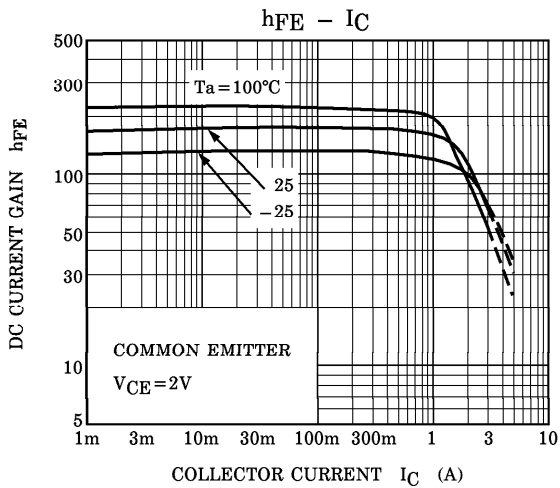
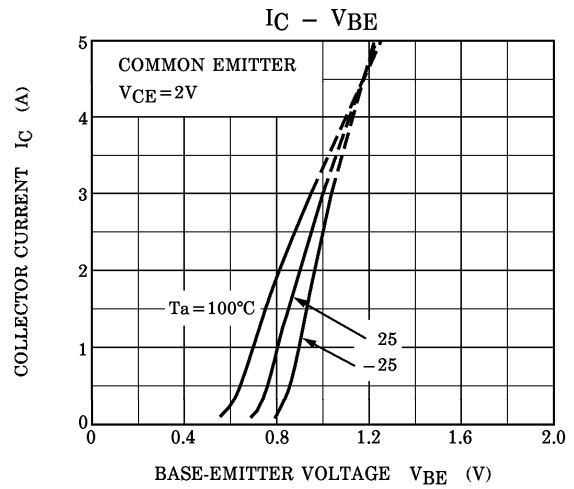
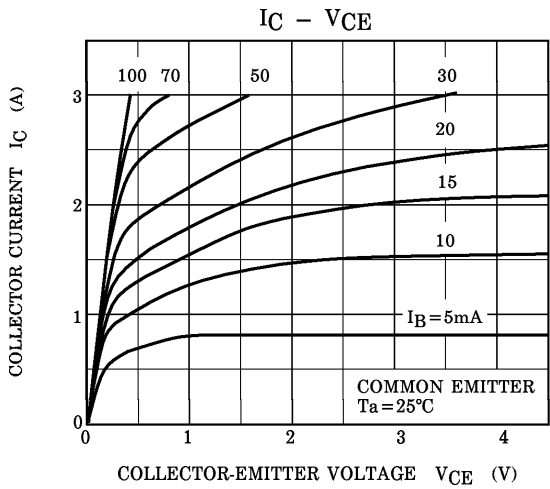
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	80	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	3	A
Base Current	$I_B$	0.6	A
Collector Power Dissipation	$P_C$	900	mW
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature 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	$I_{CBO}$	$V_{CB} = 80V, I_E = 0$	—	—	0.1	$\mu A$	
Emitter Cut-off Current	$I_{EBO}$	$V_{EB} = 6V, I_C = 0$	—	—	0.1	$\mu A$	
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	$\mu s$
	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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