

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCES)

2SA1681

POWER AMPLIFIER APPLICATIONS
 POWER SWITCHING APPLICATIONS

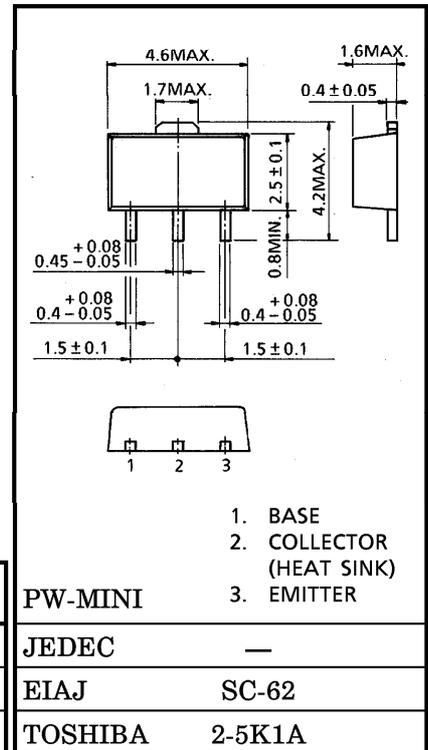
- Low Saturation Voltage : $V_{CE(sat)} = -0.5V$ (Max.)
($I_C = -1A$)
- High Speed Switching Time: $t_{stg} = 300ns$ (Typ.)
- Small Flat Package
- $P_C = 1 \sim 2W$ (Mounted on Ceramic Substrate)
- Complementary to 2SC4409

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	-60	V
Collector-Emitter Voltage	V_{CE0}	-50	V
Emitter-Base Voltage	V_{EB0}	-6	V
Collector Current	I_C	-2	A
Base Current	I_B	-0.2	A
Collector Power Dissipation	P_C	500	mW
Collector Power Dissipation	P_C^*	1000	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$

* : Mounted on ceramic substrate ($250mm^2 \times 0.8t$)

Unit in mm



PW-MINI

JEDEC

EIAJ

TOSHIBA

1. BASE
2. COLLECTOR (HEAT SINK)
3. EMITTER

Weight : 0.05g

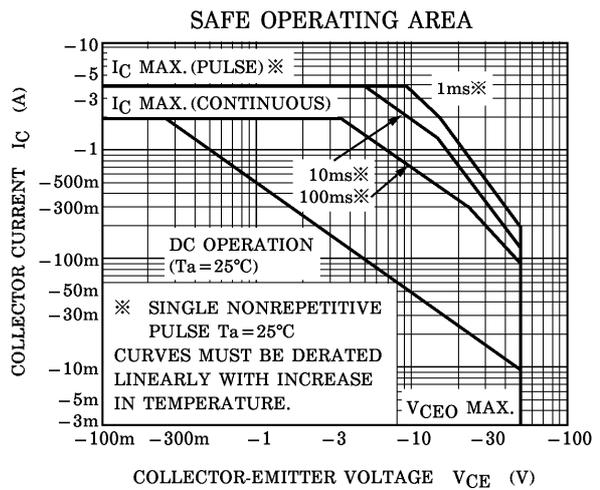
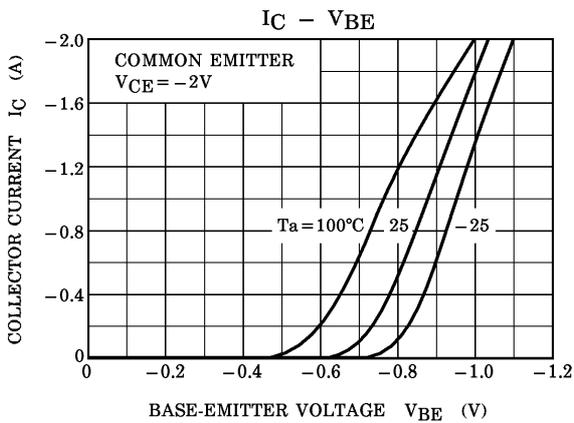
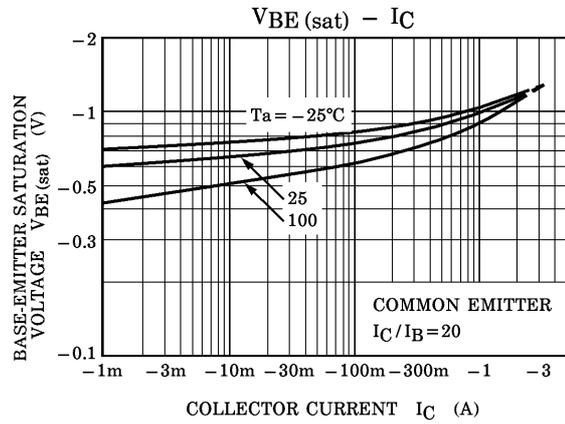
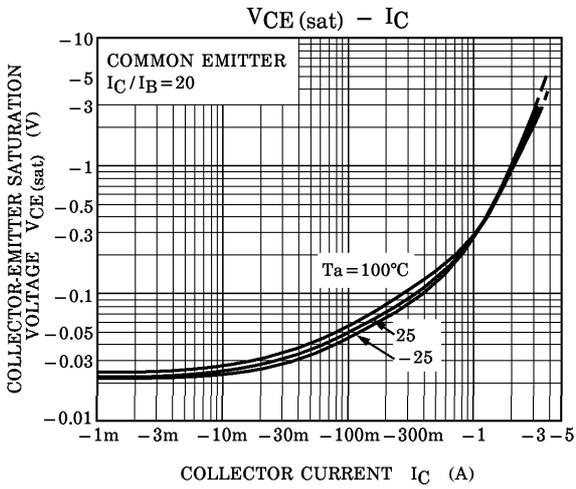
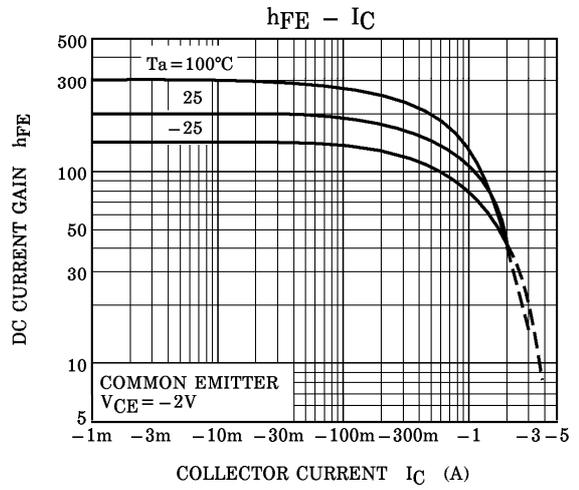
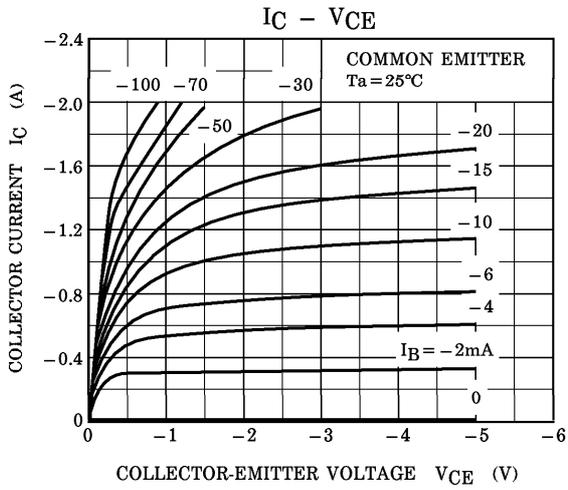
Marking

Type Name



ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT				
Collector Cut-off Current	I_{CBO}	$V_{CB} = -60V, I_E = 0$	—	—	-0.1	μA				
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -6V, I_C = 0$	—	—	-0.1	μA				
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-50	—	—	V				
DC Current Gain	$h_{FE(1)}$	$V_{CE} = -2V, I_C = -100mA$	120	—	400					
	$h_{FE(2)}$	$V_{CE} = -2V, I_C = -1.5A$	40	—	—					
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -1A, I_B = -0.05A$	—	—	-0.5	V				
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1A, I_B = -0.05A$	—	—	-1.2	V				
Transition Frequency	f_T	$V_{CE} = -2V, I_C = -100mA$	—	100	—	MHz				
Collector Output Capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	23	—	pF				
Switching Time	Turn-on Time	t_{on}					—	0.1	—	μs
	Storage Time	t_{stg}					—	0.3	—	
	Fall Time	t_f					—	0.1	—	



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