

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1431

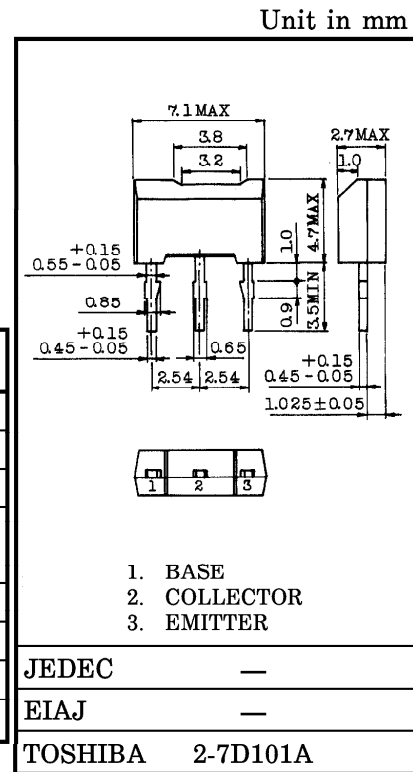
STORBE FLASH APPLICATIONS.
MEDIUM POWER AMPLIFIER APPLICATIONS.

- High DC Current Gain and Excellent h_{FE} Linearity
: $h_{FE(1)} = 100 \sim 320$ ($V_{CE} = -2V, I_C = -0.5A$)
: $h_{FE(2)} = 70$ (Min.) ($V_{CE} = -2V, I_C = -4A$)
- Low Saturation Voltage
: $V_{CE(sat)} = -1.0V$ (Max.) ($I_C = -4A, I_B = -0.1A$)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-35	V
Collector-Emitter Voltage	V_{CEO}	-20	V
Emitter-Base Voltage	V_{EBO}	-8	V
Collector Current	DC	I_C	-5
	Pulsed (Note 1)	I_{CP}	-8
Base Current	I_B	-0.5	A
Collector Power Dissipation	P_C	1000	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$

Note 1 : Pulse Width = 10ms (Max.), Duty Cycle = 30% (Max.)



Weight : 0.2g

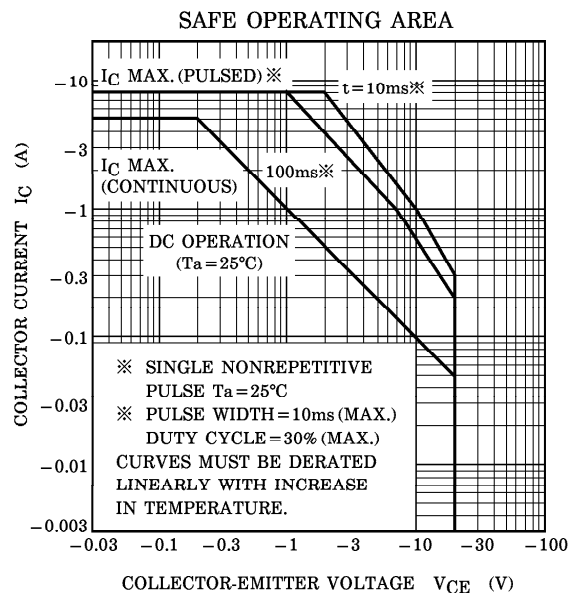
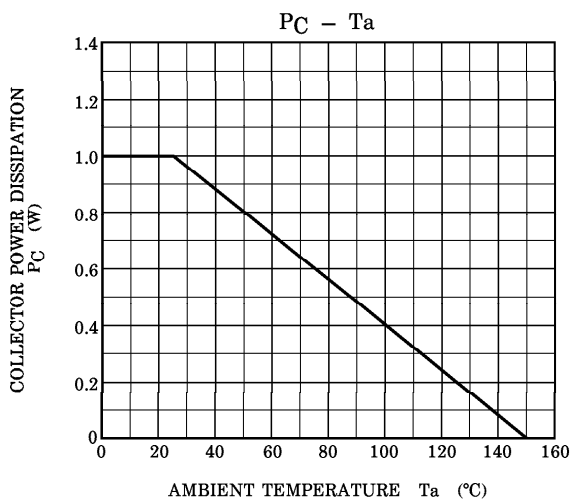
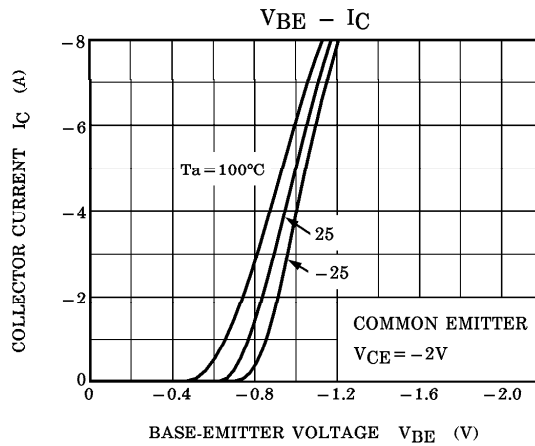
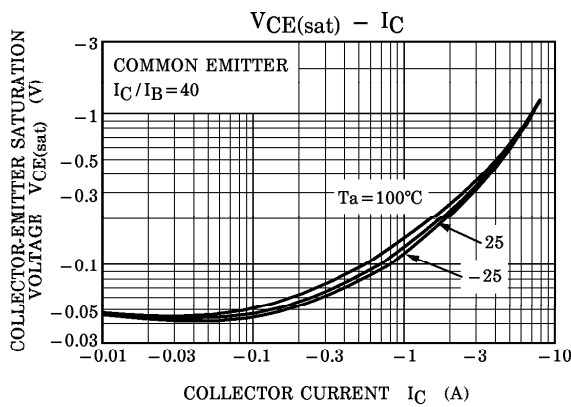
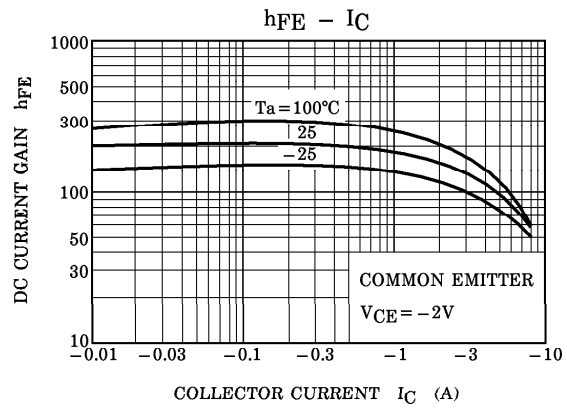
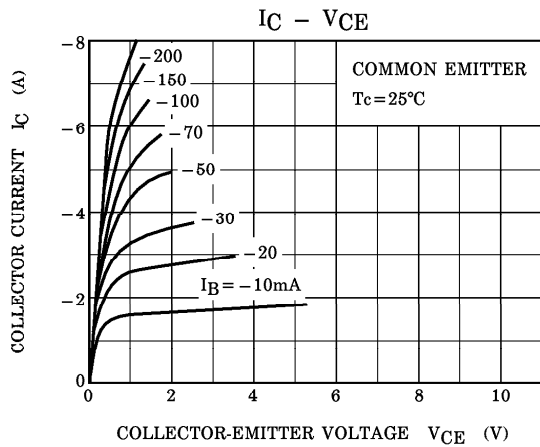
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CB} = -35V, I_E = 0$	—	—	-100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -8V, I_C = 0$	—	—	-100	nA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-20	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -1mA, I_C = 0$	-8	—	—	V
DC Current Gain	$h_{FE(1)}$ (Note 2)	$V_{CE} = -2V, I_C = -0.5A$	100	—	320	
	$h_{FE(2)}$	$V_{CE} = -2V, I_C = -4A$	70	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -4A, I_B = -0.1A$	—	—	-1.0	V
Base-Emitter Voltage	V_{BE}	$V_{CE} = -2V, I_C = -4A$	—	—	-1.5	V
Transition Frequency	f_T	$V_{CE} = -2V, I_C = -0.5A$	—	170	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	62	—	pF

Note 2 : $h_{FE(1)}$ Classification O : 100~200, Y : 160~320

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