

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1431

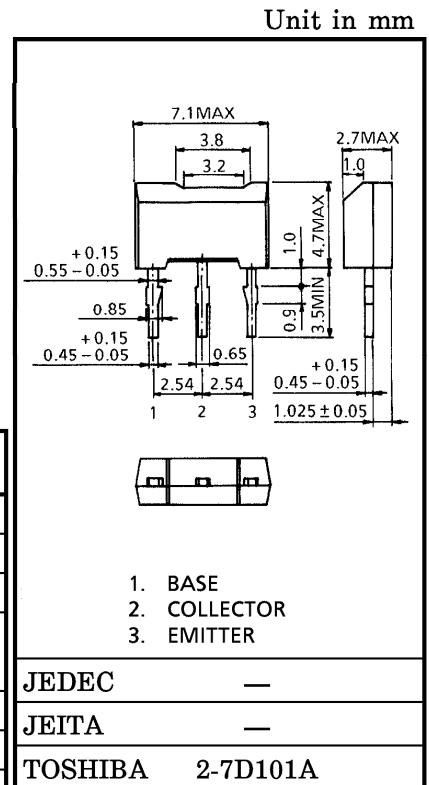
STORBE FLASH APPLICATIONS

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	A
	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	$^\circ C$



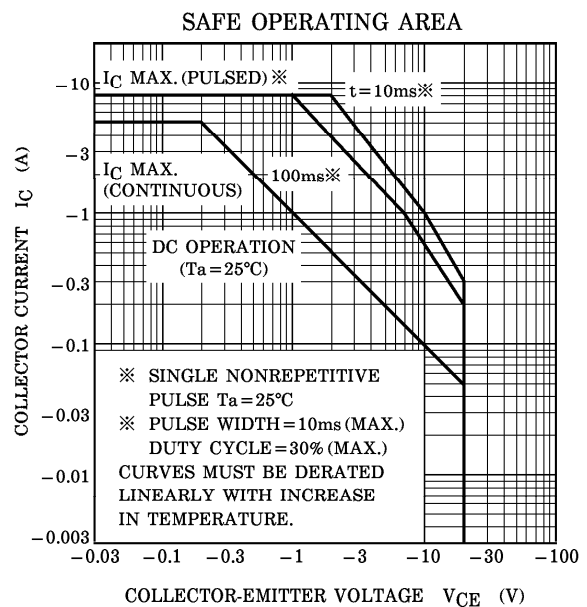
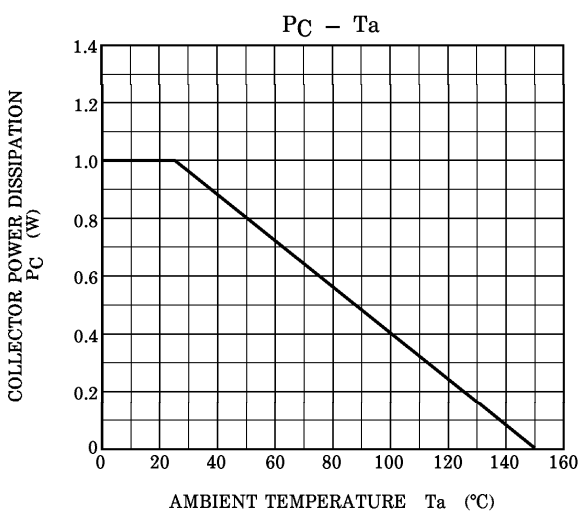
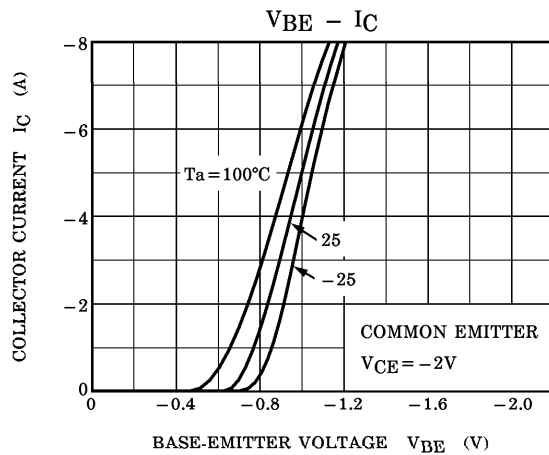
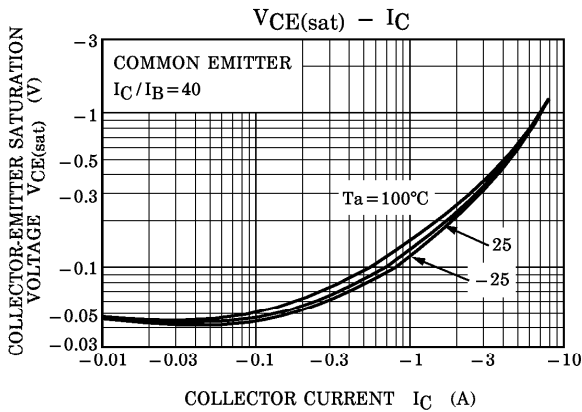
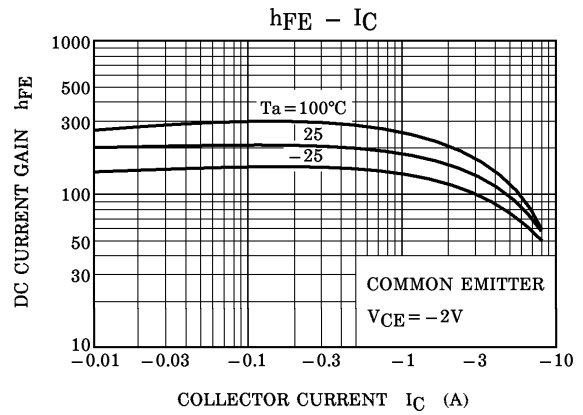
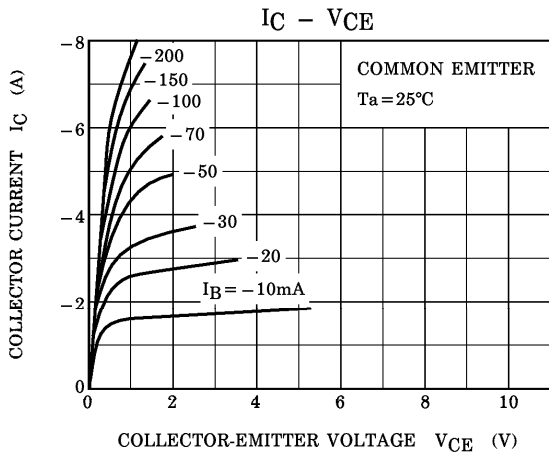
Weight : 0.2g (Typ.)

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

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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