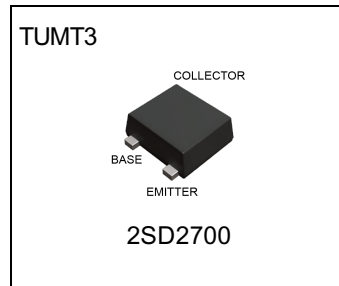


Parameter	Value
V_{CEO}	12V
I_C	2A

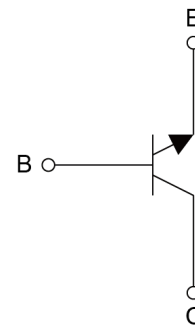
●Outline



●Features

- 1) Collector current is large.
- 2) $V_{CE(sat)} \leq 180mV$
at $I_C = 1A / I_B = 50mA$
- 3) Lead Free/RoHS Compliant.

●Inner circuit



●Application

Low frequency amplifier, Driver

●Packaging specifications

Part No.	Package	Package size	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit.(pcs)	Marking
2SD2700	TUMT3	2021	TL	180	8	3000	FW

● **Absolute maximum ratings** ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Values	Unit
Collector-base voltage	V_{CBO}	15	V
Collector-emitter voltage	V_{CEO}	12	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_{C}	2	A
	I_{CP}^{*1}	4	A
Power dissipation	P_{D}	0.4	W
	P_{D}^{*2}	0.8	W
Junction temperature	T_{j}	150	$^\circ\text{C}$
Range of storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

● **Electrical characteristics** ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Collector-base breakdown voltage	BV_{CBO}	$I_{\text{C}} = 10\mu\text{A}$	15	-	-	V
Collector-emitter breakdown voltage	BV_{CEO}	$I_{\text{C}} = 1\text{mA}$	12	-	-	V
Emitter-base breakdown voltage	BV_{EBO}	$I_{\text{E}} = 10\mu\text{A}$	6	-	-	V
Collector cut-off current	I_{CBO}	$V_{\text{CB}} = 15\text{V}$	-	-	100	nA
Emitter cut-off current	I_{EBO}	$V_{\text{EB}} = 6\text{V}$	-	-	100	nA
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}} = 1\text{A}, I_{\text{B}} = 50\text{mA}$	-	90	180	mV
DC current gain	h_{FE}	$V_{\text{CE}} = 2\text{V}, I_{\text{C}} = 200\text{mA}$	270	-	680	-
Transition frequency	f_{T}	$V_{\text{CE}} = 2\text{V}, I_{\text{E}} = -200\text{mA}, f = 100\text{MHz}$	-	360	-	MHz
Output capacitance	C_{ob}	$V_{\text{CB}} = 10\text{V}, I_{\text{E}} = 0\text{A}, f = 1\text{MHz}$	-	20	-	pF

*1 $P_w=1\text{ms}$ Single Pulse

*2 Mounted on a ceramic board (25mm×25mm×0.8mm)

*3 Pulsed

● Electrical characteristic curves ($T_a = 25^\circ\text{C}$)

Fig.1 Grounded Emitter Propagation Characteristics

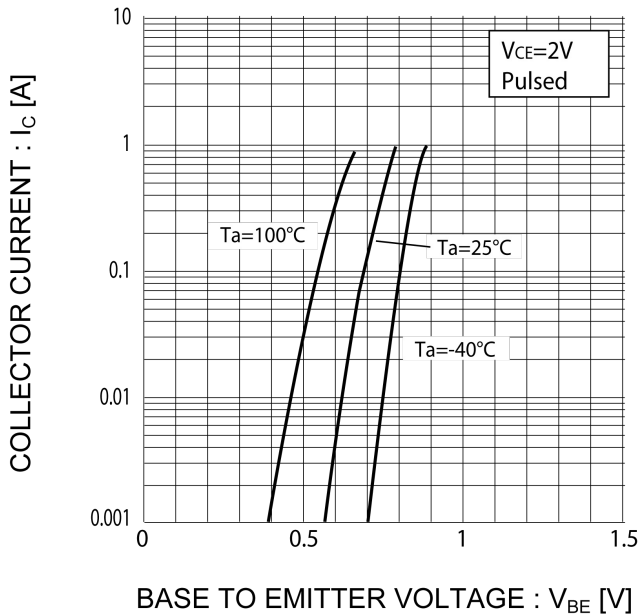


Fig.2 DC Current Gain vs. Collector Current

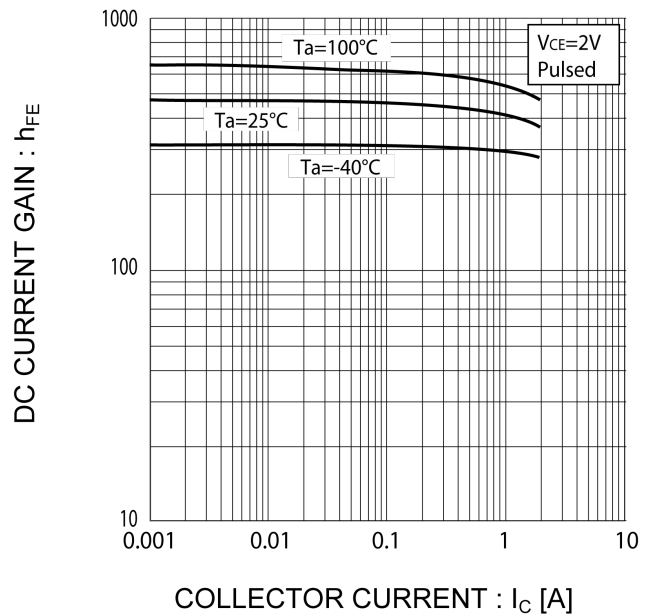


Fig.3 Collector-Emitter Saturation Voltage vs. Collector Current (I)

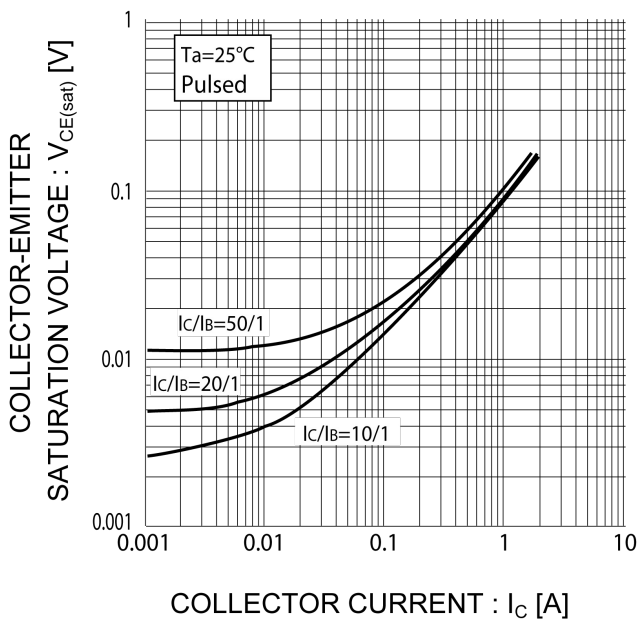
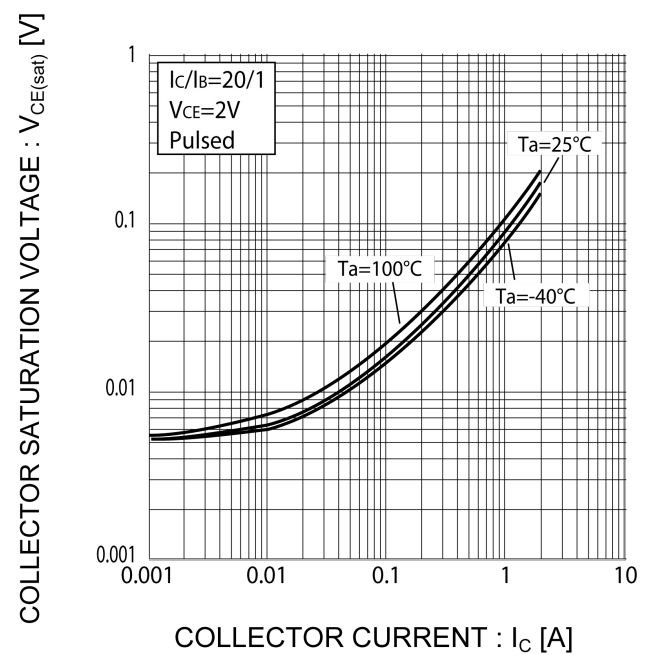


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current (II)



● Electrical characteristic curves ($T_a = 25^\circ\text{C}$)

Fig.5 Switching time

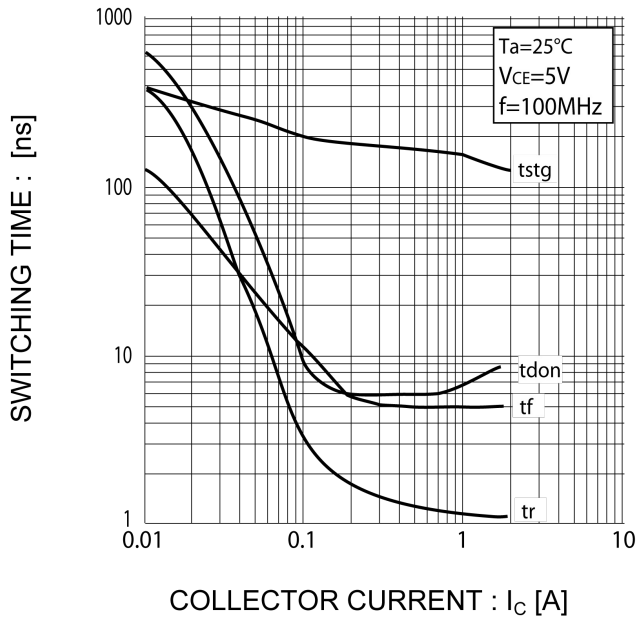


Fig.6 Gain Bandwidth Product vs. Emitter Current

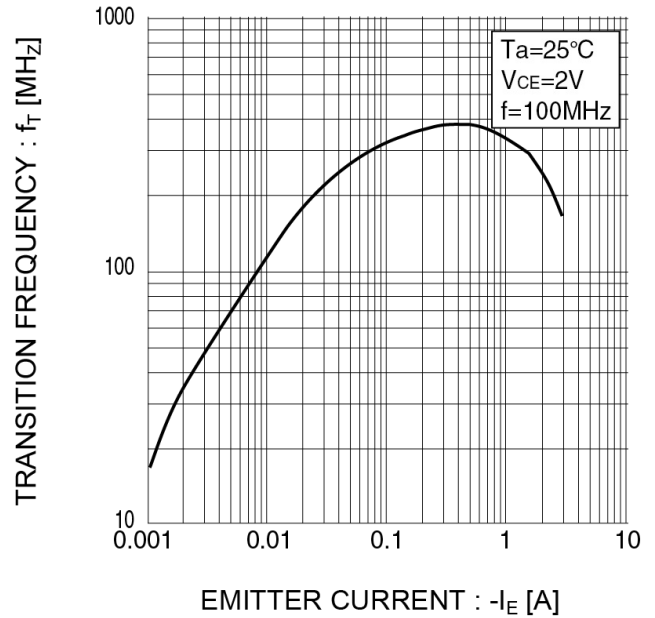
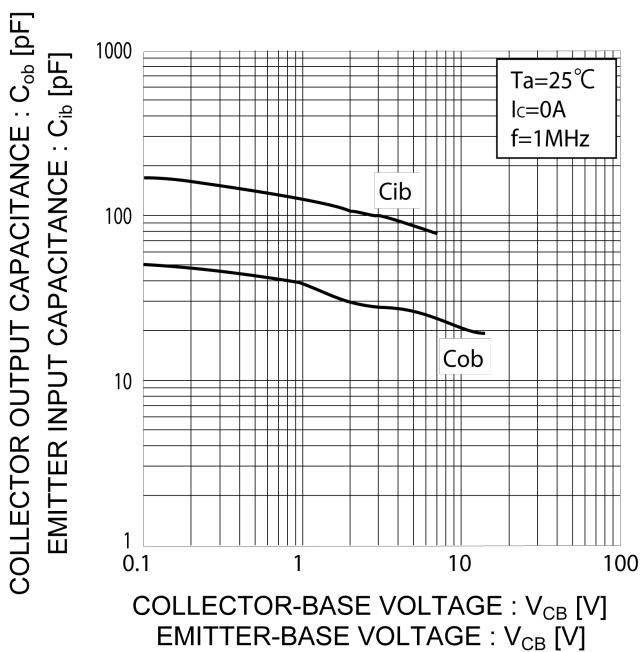
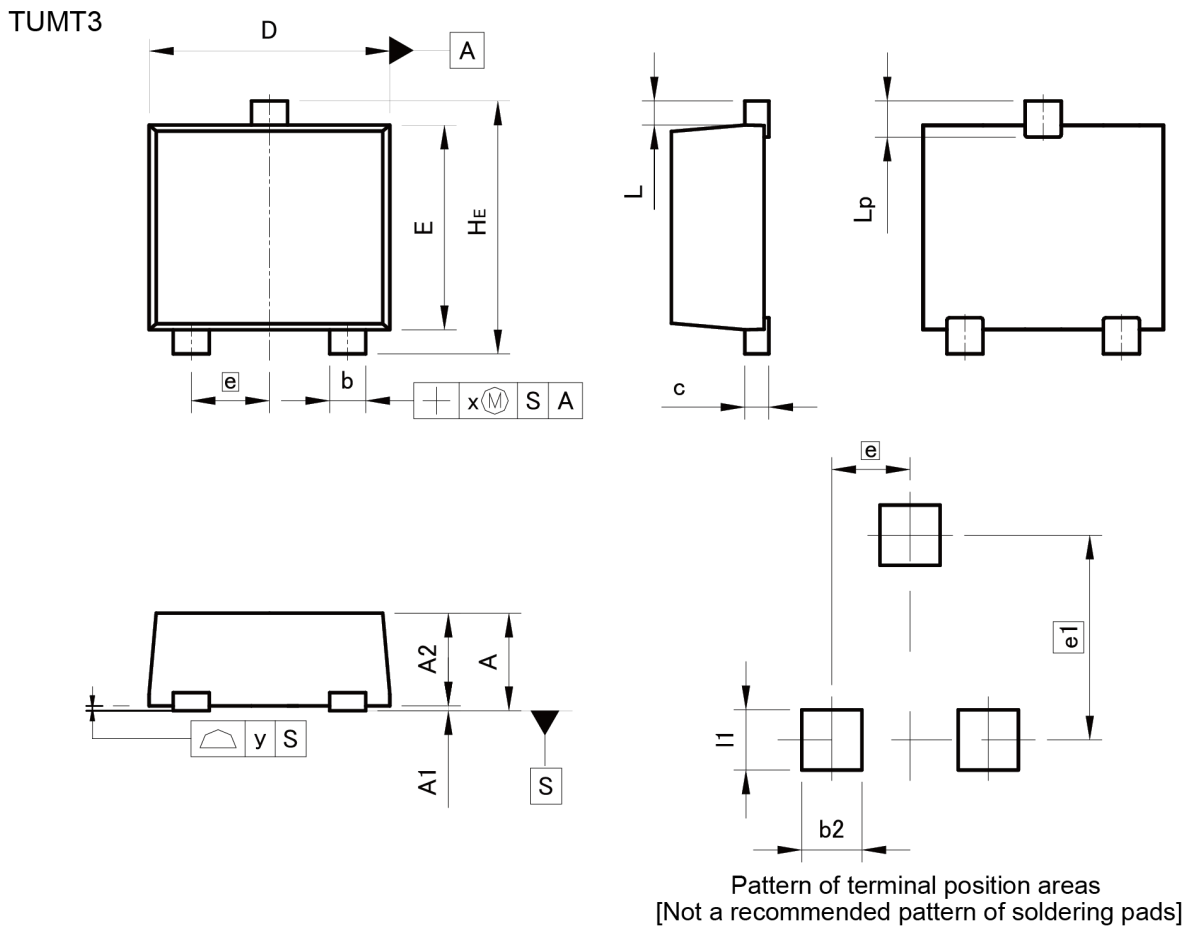


Fig.7 C_{ob} vs. collector-base voltage, C_{ib} vs. emitter-base voltage



●Dimensions



DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	-	0.85	-	0.033
A1	0.00	0.10	0.000	0.004
A2	0.72	0.82	0.028	0.032
b	0.25	0.40	0.010	0.016
c	0.12	0.22	0.005	0.009
D	1.90	2.10	0.075	0.083
E	1.60	1.80	0.063	0.071
e	0.65		0.026	
HE	2.00	2.20	0.079	0.087
L	0.20		0.008	
Lp	-	0.40	-	0.016
x	-	0.10	-	0.004
y	-	0.10	-	0.004

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b2	-	0.50	-	0.020
e1	1.70		0.067	
l1	-	0.50	-	0.020

Dimension in mm/inches

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