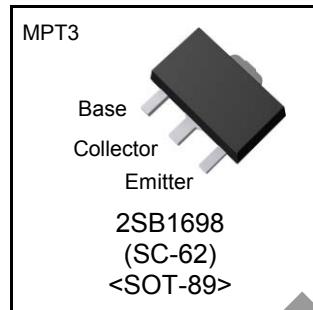
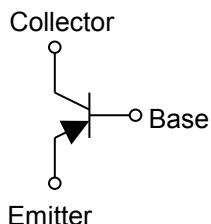


Parameter	Value
V_{CEO}	-30V
I_C	-1.5A

●Outline**●Features**

- 1) Suitable for Middle Power Driver
- 2) Complementary NPN Types : 2SD2662
- 3) Low $V_{CE(sat)}$
 $V_{CE(sat)} = -0.37V$ (Max.)
($I_C/I_B = -1A/-50mA$)
- 4) Lead Free/RoHS Compliant.

●Inner circuit**●Applications**

Motor driver , LED driver
Power supply

●Packaging specifications

Part No.	Package	Package size (mm)	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit (pcs)	Marking
2SB1698	MPT3	4540	T100	180	12	1,000	FL

● Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Values	Unit
Collector-base voltage	V _{CBO}	-30	V
Collector-emitter voltage	V _{CEO}	-30	V
Emitter-base voltage	V _{EBO}	-6	V
Collector current	DC I _C	-1.5	A
	Pulsed I _{CP} ^{*1}	-3	A
Power dissipation	P _D ^{*2}	0.5	W
	P _D ^{*3}	2.0	W
Junction temperature	T _j	150	°C
Range of storage temperature	T _{stg}	-55 to +150	°C

*1 P_w=1ms, single pulse

*2 Each terminal mounted on a reference land

*3 Mounted on a ceramic board (40×40×0.7 mm)

● Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector-emitter breakdown voltage	BV _{CEO}	I _C = -1mA	-30	-	-	V
Collector-base breakdown voltage	BV _{CBO}	I _C = -10μA	-30	-	-	V
Emitter-base breakdown voltage	BV _{EBO}	I _E = -10μA	-6	-	-	V
Collector cut-off current	I _{CBO}	V _{CB} = -30V	-	-	-100	nA
Emitter cut-off current	I _{EBO}	V _{EB} = -6V	-	-	-100	nA
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = -1A, I _B = -50mA	-	-200	-370	mV
DC current gain	h _{FE}	V _{CE} = -2V, I _C = -100mA	270	-	680	-
Transition frequency	f _T	V _{CE} = -2V, I _E = 100mA f=100MHz	-	280	-	MHz
Output capacitance	C _{ob}	V _{CB} = -10V, I _E = 0A f = 1MHz	-	13	-	pF

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

Fig.1 Ground Emitter Propagation Characteristics

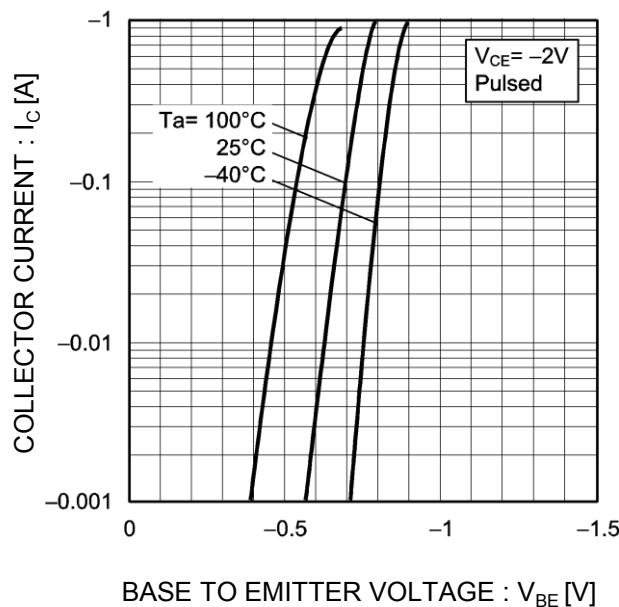


Fig.2 Typical Output Characteristics

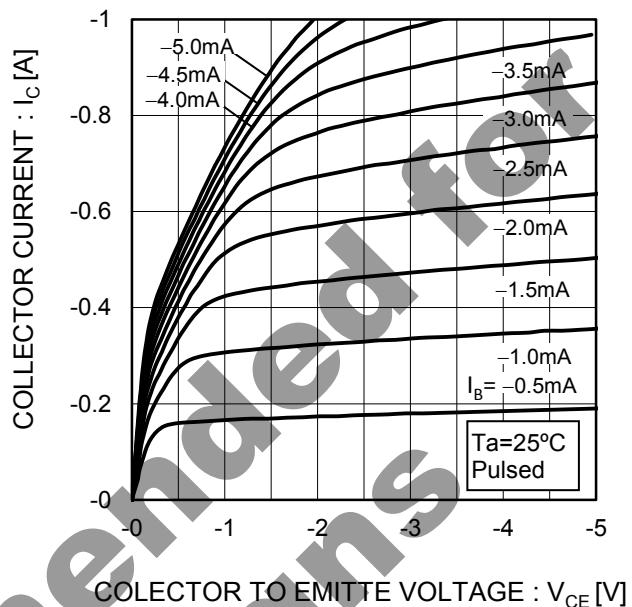


Fig.3 DC Current Gain vs. Collector Current(I)

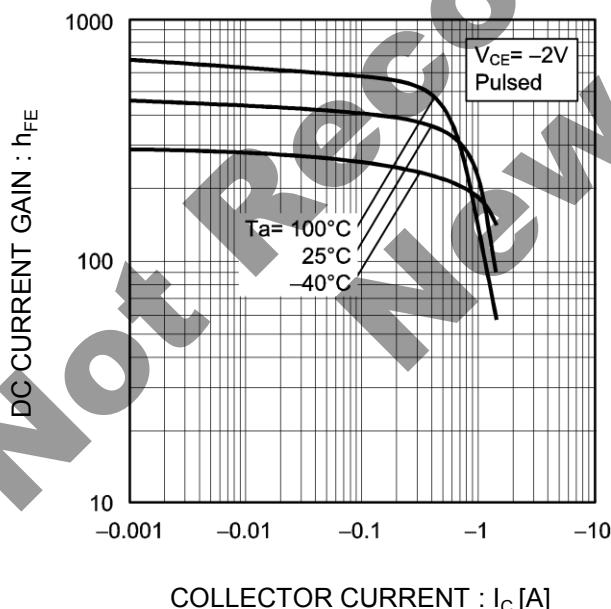
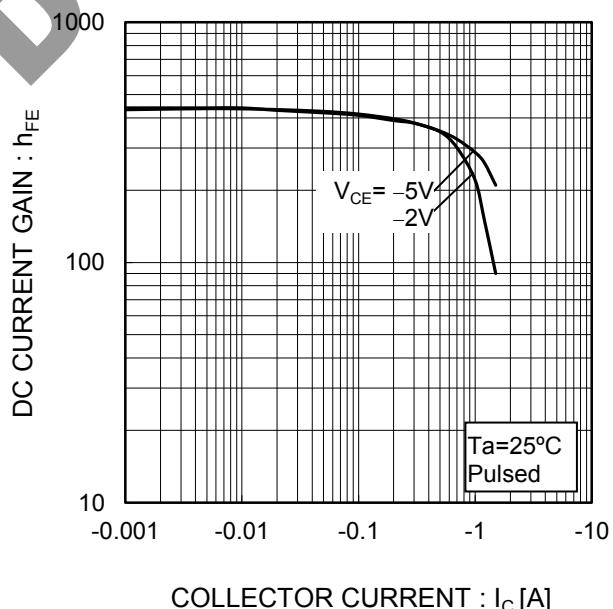


Fig.4 DC Current Gain vs. Collector Current(II)



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

Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current (I)

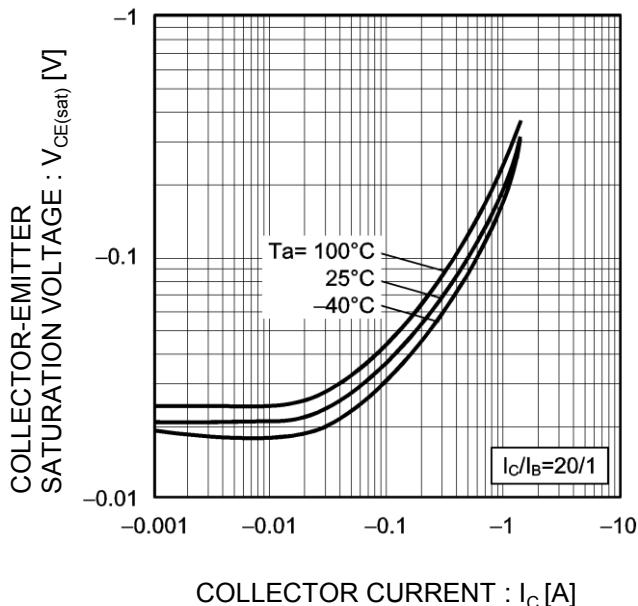


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current (II)

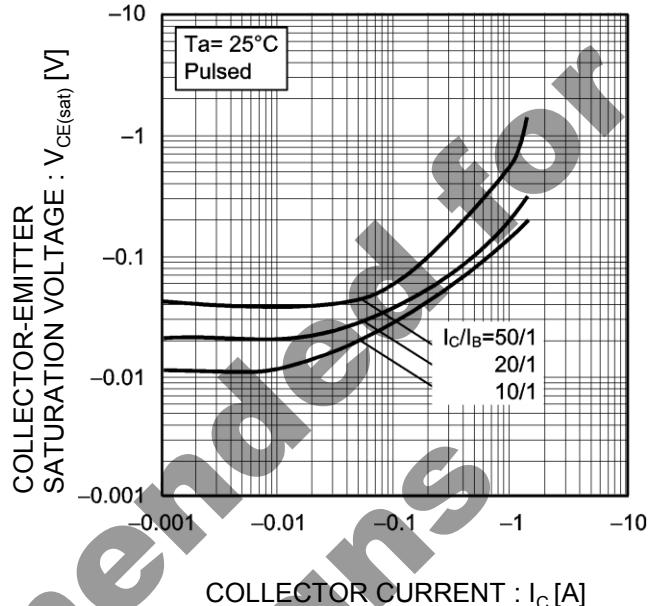


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

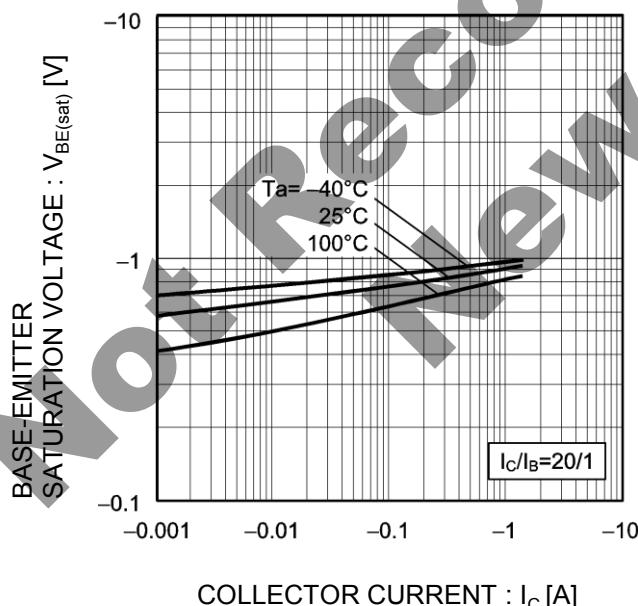
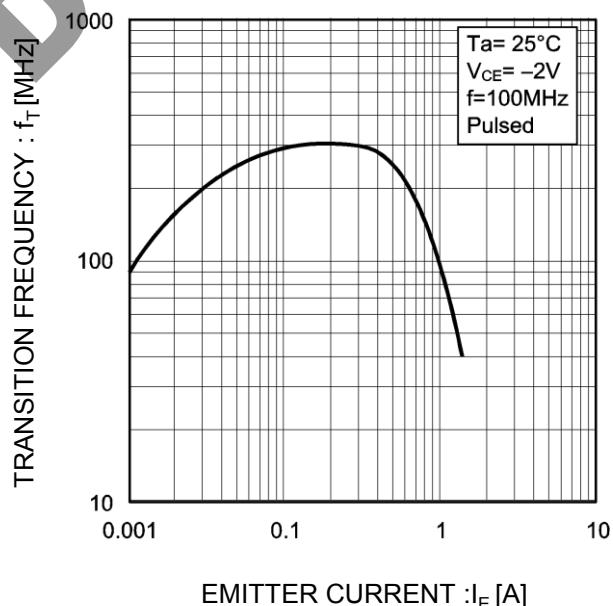


Fig.8 Gain Bandwidth Product vs. Emitter Current



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

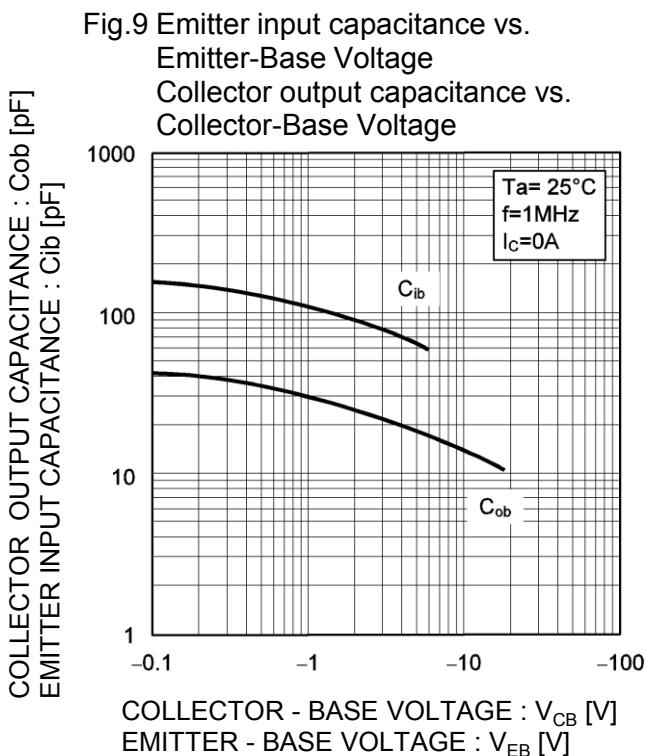
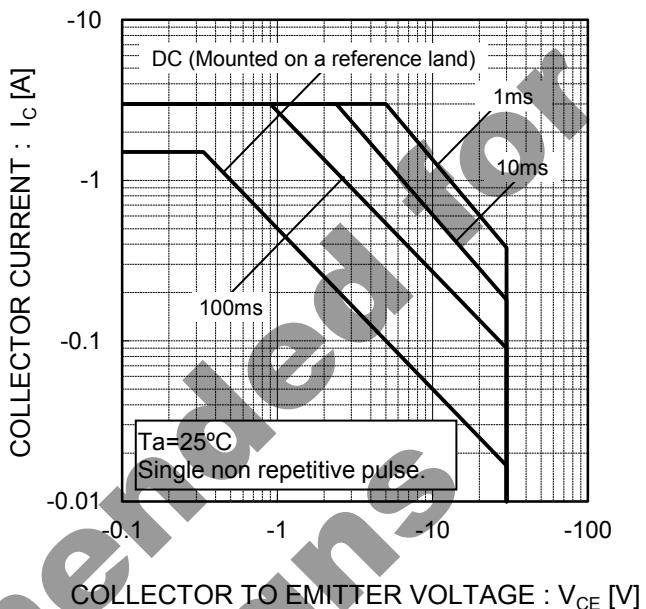
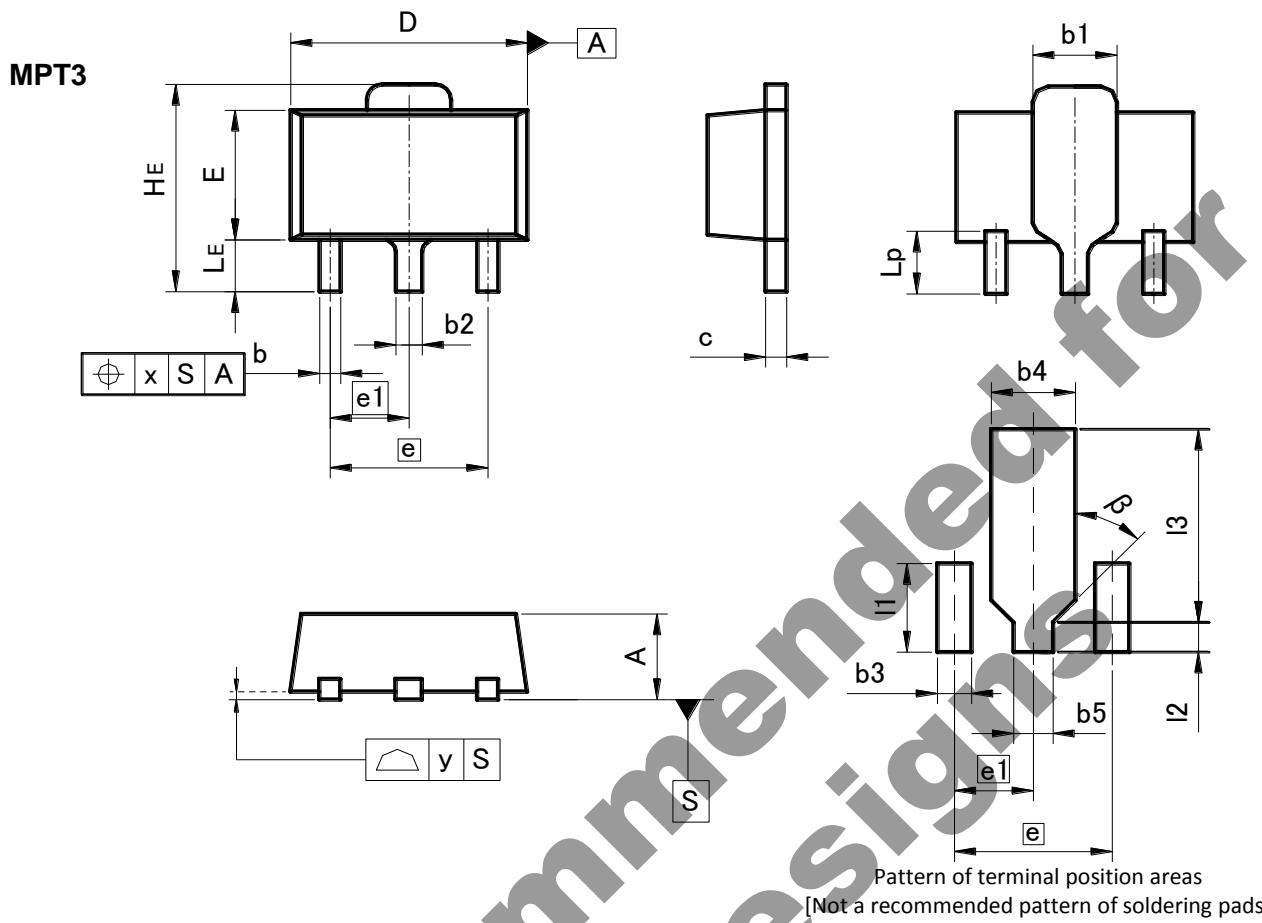


Fig.10 Safe Operating Area



● Dimensions (Unit : mm)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.40	1.50	0.055	0.059
b	0.30	0.50	0.012	0.020
b1	1.50	1.70	0.059	0.067
b2	0.40	0.60	0.016	0.024
c	0.35	0.50	0.014	0.020
D	4.40	4.70	0.173	0.185
E	2.40	2.70	0.094	0.106
e	3.00		0.118	
e1	1.50		0.059	
H _E	3.70	4.30	0.146	0.169
L _E	0.80	1.20	0.031	0.047
L _p	1.01	1.41	0.040	0.056
x	—	0.15	—	0.006
y	—	0.10	—	0.004

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b ₃	—	0.65	—	0.026
b ₄	—	1.70	—	0.067
b ₅	—	0.75	—	0.030
l ₁	—	1.71	—	0.067
l ₂	—	0.58	—	0.023
l ₃	—	3.72	—	0.146
β	45°		45°	

Dimension in mm / inches

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