

PNP General Purpose Transistor

BC858BW / BC858B

●Features

- 1) $V_{CE0} < -30V$ ($I_C = -1mA$)
- 2) Complements the BC848B / BC848BW.

●Package, marking and packaging specifications

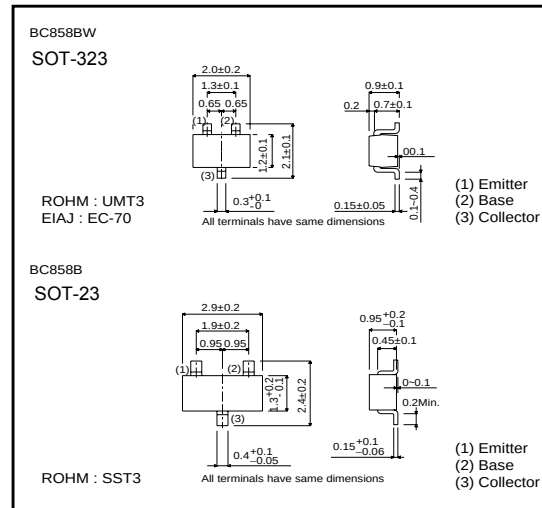
Part No.	BC858BW	BC858B
Packaging type	UMT3	SST3
Marking	G3K	G3K
Code	T106	T116
Basic ordering unit (pieces)	3000	3000

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CB0}	-30	V
Collector-emitter voltage	V_{CE0}	-30	V
Emitter-base voltage	V_{EB0}	-5	V
Collector current	I_C	-0.1	A
Collector power dissipation	P_C	0.2 0.35	W *
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-65 to +150	°C

* When mounted on 7 × 5 × 0.6 mm ceramic board.

●External dimensions (Unit : mm)



●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	V_{CB0}	-30	—	—	V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	V_{CE0}	-30	—	—	V	$I_C = -1mA$
Emitter-base breakdown voltage	V_{EB0}	-5	—	—	V	$I_E = -50\mu A$
Collector cutoff current	I_{CBO}	—	—	-100	nA	$V_{CB} = -30V$
		—	—	4	μA	$V_{CB} = -30V, T_a = 150^\circ C$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	-0.3	V	$I_C/I_B = -10mA/-0.5mA$
		—	—	-0.65	V	$I_C/I_B = -100mA/-5mA$
Base-emitter saturation voltage	$V_{BE(on)}$	-0.6	—	-0.75	V	$V_{CE}/I_C = -5V/-10mA$
DC current transfer ratio	h_{FE}	210	—	480	—	$V_{CE}/I_C = -5V/-2mA$
Transition frequency	f_T	—	250	—	MHz	$V_{CE} = -5V, I_E = 20mA, f = 100MHz$
Output capacitance	C_{ob}	—	4.5	—	pF	$V_{CB} = -10V, I_E = 0, f = 1MHz$

●Electrical characteristics curves

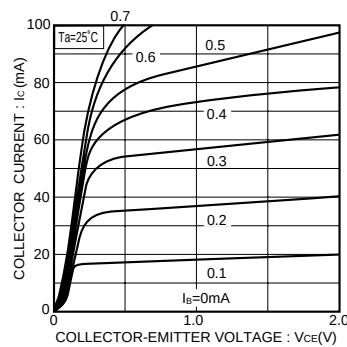


Fig.1 Grounded emitter output characteristics (I)

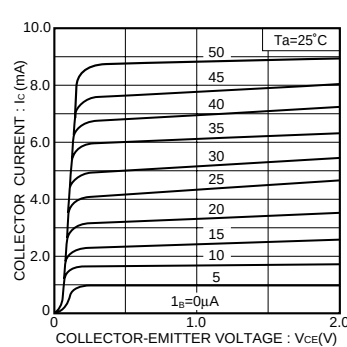


Fig.2 Grounded emitter output characteristics (II)

Transistors

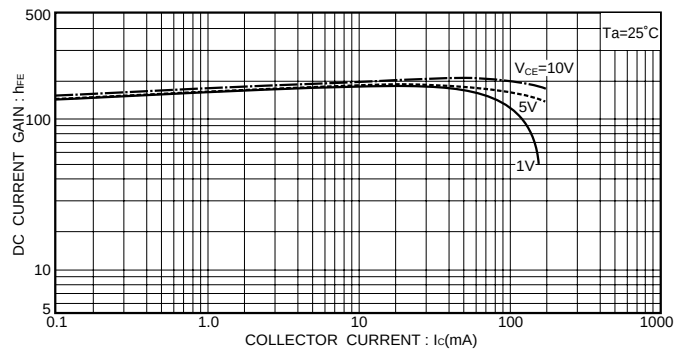


Fig.3 DC current gain vs. collector current (I)

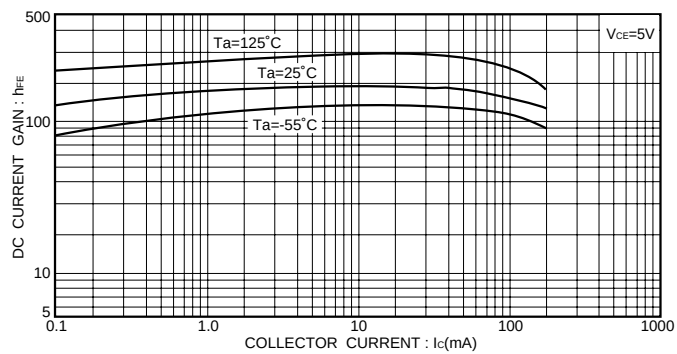


Fig.4 DC current gain vs. collector current (II)

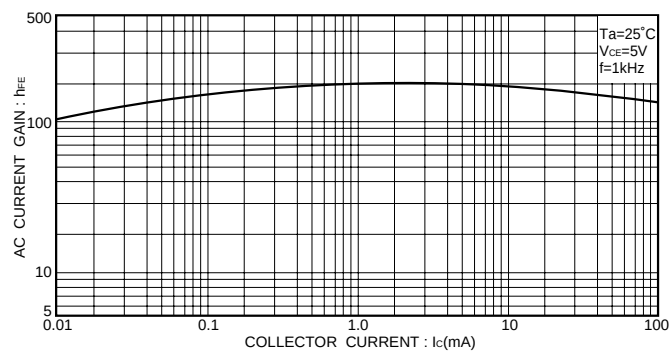


Fig.5 AC current gain vs. collector current

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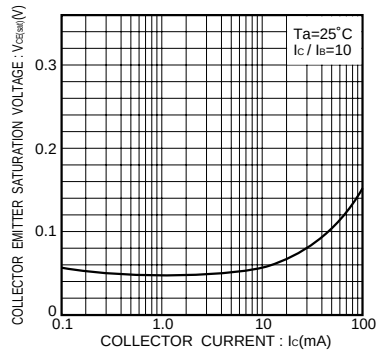


Fig.6 Collector-emitter saturation voltage vs. collector current

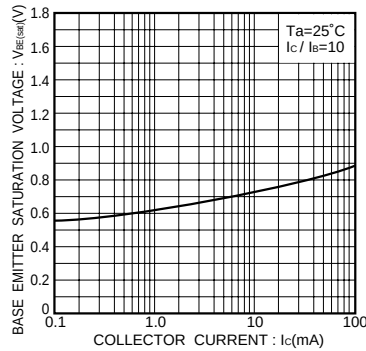


Fig.7 Base-emitter saturation voltage vs. collector current

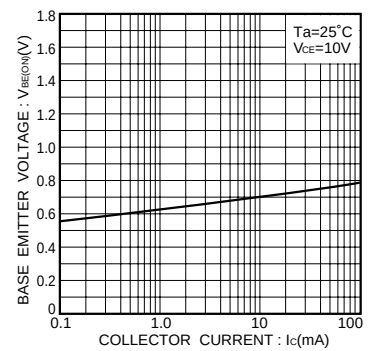


Fig.8 Grounded emitter propagation characteristics

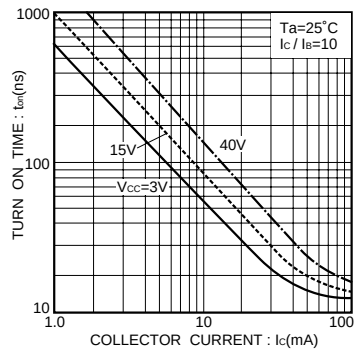


Fig.9 Turn-on time vs. collector current

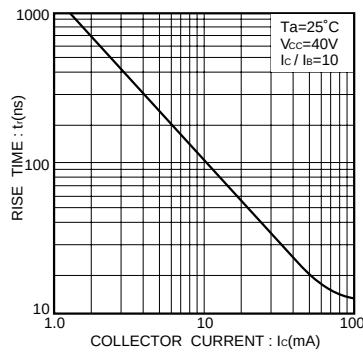


Fig.10 Rise time vs. collector current

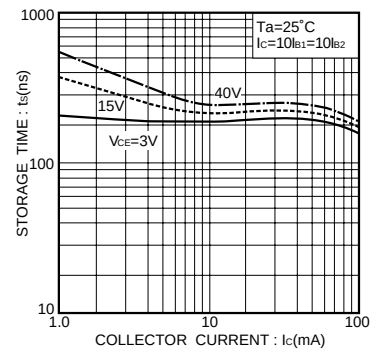


Fig.11 Storage time vs. collector current

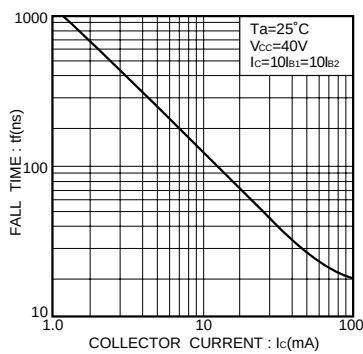


Fig.12 Fall time vs. collector current

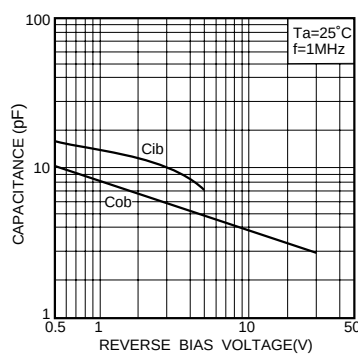


Fig.13 Input/output capacitance vs. voltage

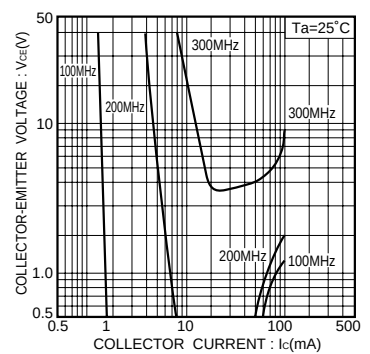


Fig.14 Gain bandwidth product

Transistors

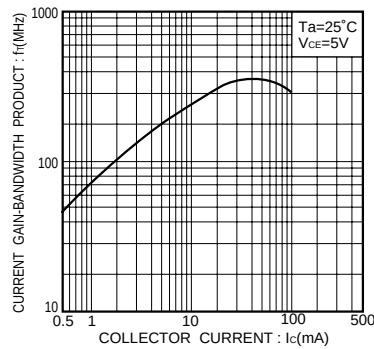


Fig.15 Gain bandwidth product vs. collector current

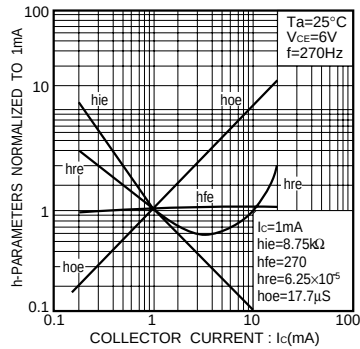


Fig.16 h parameter vs. collector current

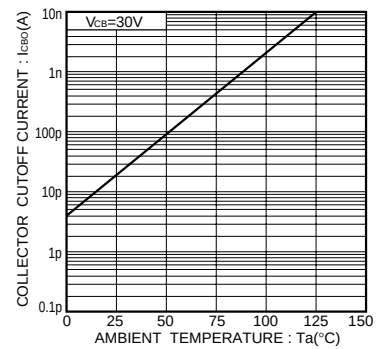


Fig.17 Noise characteristics (I)

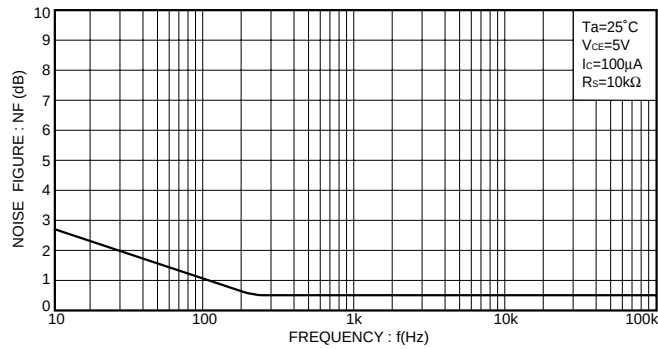


Fig.18 Noise vs. collector current

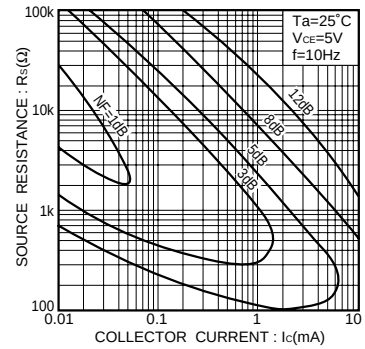


Fig.19 Noise characteristics (II)

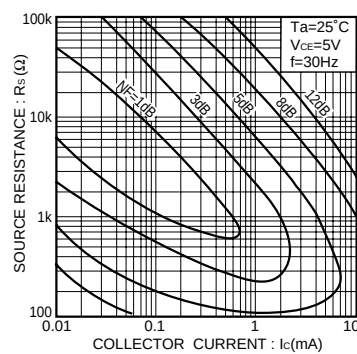


Fig.20 Noise characteristics (III)

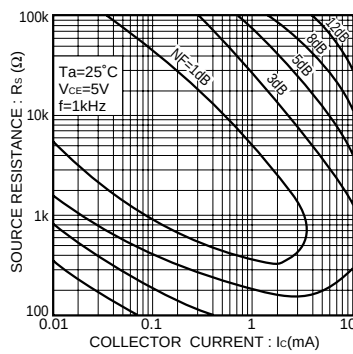


Fig.21 Noise characteristics (IV)

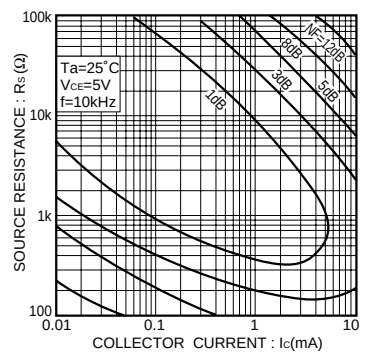


Fig.22 Noise characteristics (V)

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