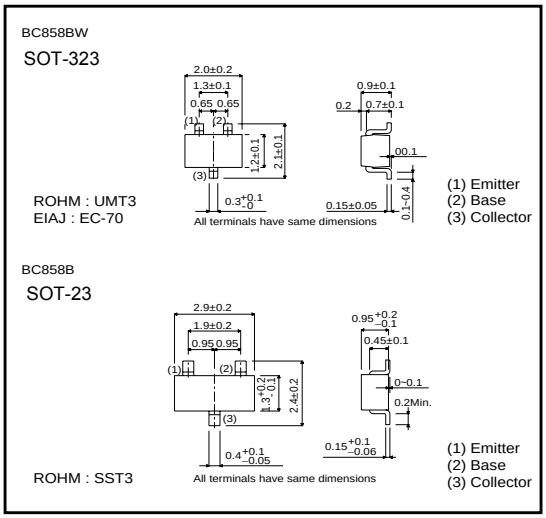
PNP General Purpose Transistor

BC858BW / BC858B

●Features

1) BV_{CEO} < -30V (I_C=-1mA)
2) Complements the BC848B / BC848BW.

●External dimensions (Unit : mm)



●Package, marking and packaging specifications

Paet No.	BC858BW	BC858B
Pakaging 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_{CBO}	–30	V
Collector-emitter voltage	V_{CEO}	–30	V
Emitter-base voltage	V_{EBO}	–5	V
Collector current	I_C	–0.1	A
Collector power dissipation	P_C	0.2	W ＊
		0.35	
Junction temperature	Tj	150	˚C
Storage temperature	Tstg	–65 to +150	˚C

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

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	–30	–	–	V	I_C= –50μA
Collector-emitter breakdown voltage	BV_{CEO}	–30	–	–	V	I_C= –1mA
Emitter-base breakdown voltage	BV_{EBO}	–5	–	–	V	I_E= –50μA
Collector cutoff current	I_{CBO}	–	–	–100	nA	V_{CB}= –30V
		–	–	4	μA	V_{CB}= –30V, Ta=150°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	Cob	–	4.5	–	pF	V_{CB}= –10V , I_E=0 , f=1MHz

●Electrical characteristics curves

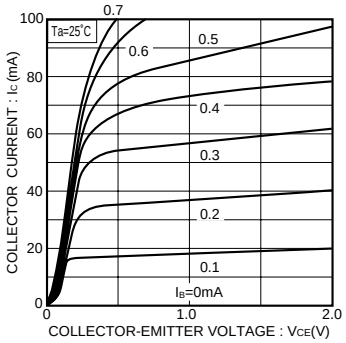


Fig.1 Grounded emitter output characteristics (I)

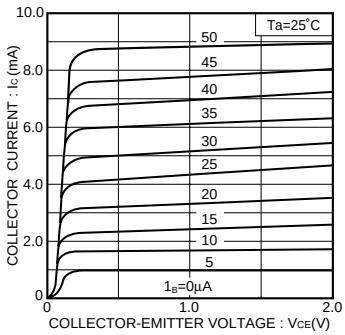


Fig.2 Grounded emitter output characteristics (II)

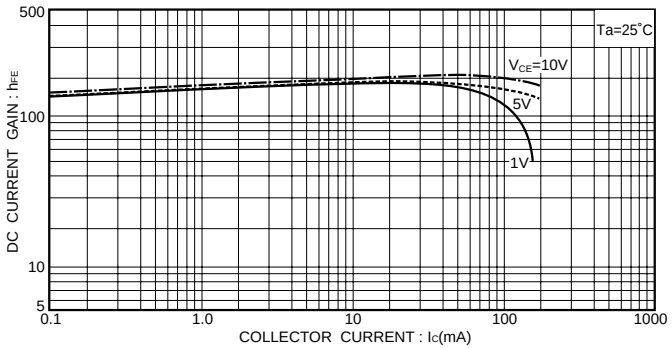


Fig.3 DC current gain vs. collector current (Ⅰ)

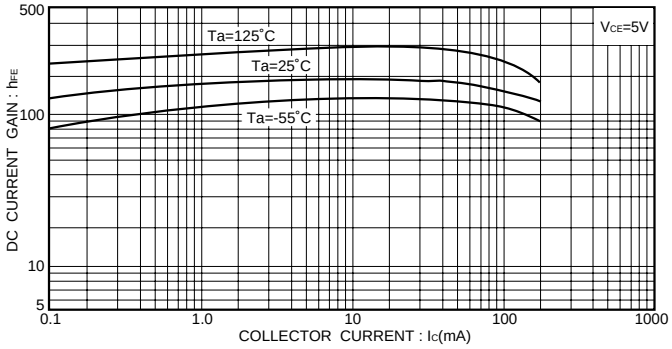


Fig.4 DC current gain vs. collector current (Ⅱ)

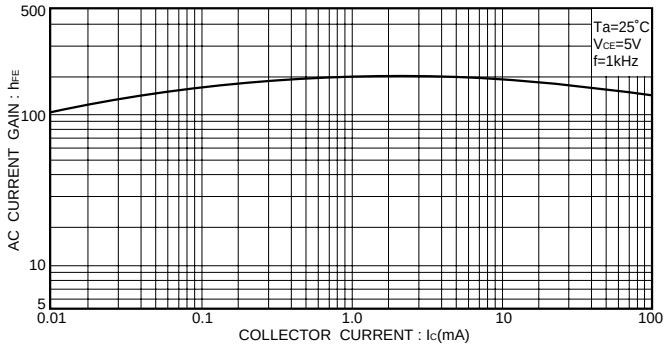


Fig.5 AC current gain vs. collector current

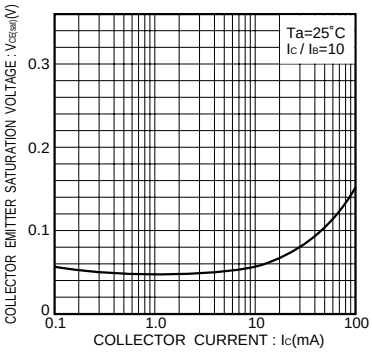


Fig.6 Collector-emitter saturation voltage vs. collector current

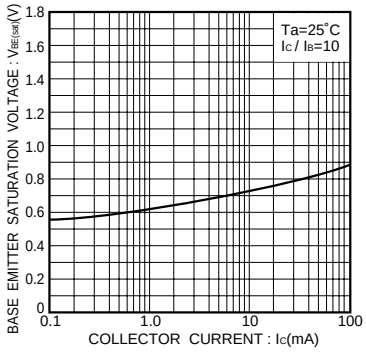


Fig.7 Base-emitter saturation voltage vs. collector current

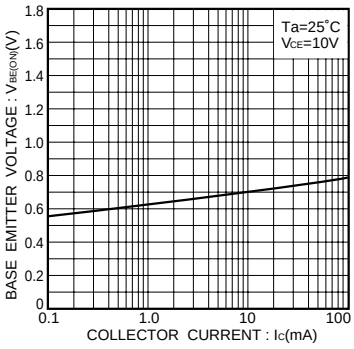


Fig.8 Grounded emitter propagation characteristics

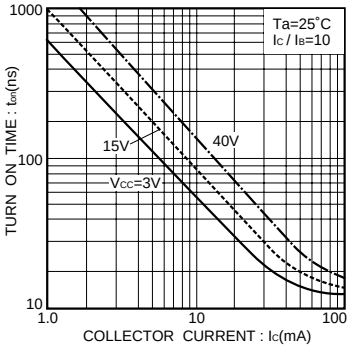


Fig.9 Turn-on time vs. collector current

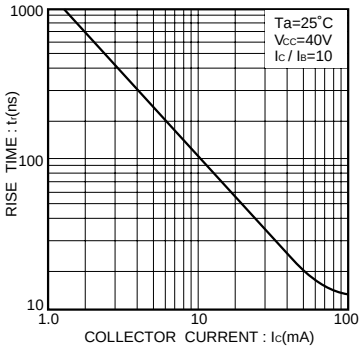


Fig.10 Rise time vs. collector current

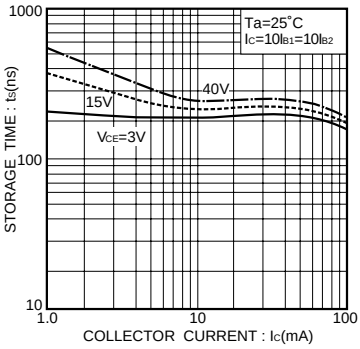


Fig.11 Storage time vs. collector current

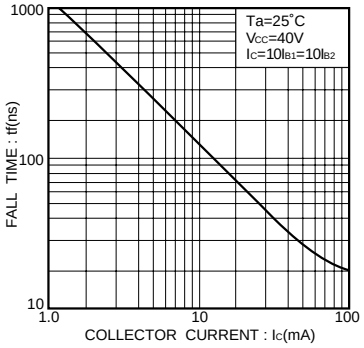


Fig.12 Fall time vs. collector current

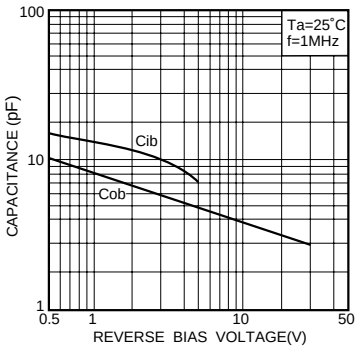


Fig.13 Input/output capacitance vs. voltage

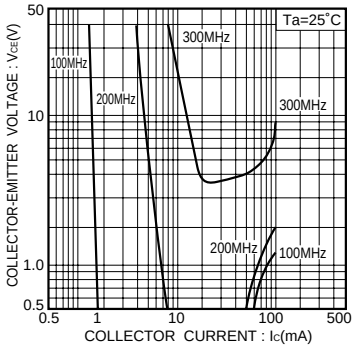


Fig.14 Gain bandwidth product

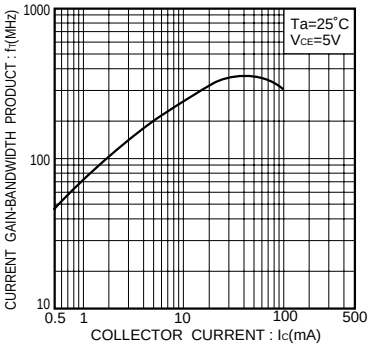


Fig.15 Gain bandwidth product vs. collector current

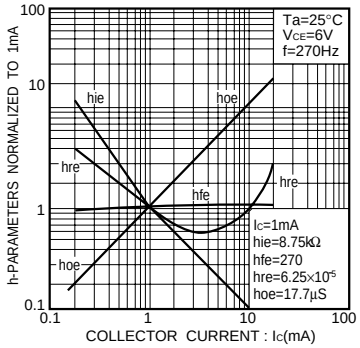


Fig.16 h parameter vs. collector current

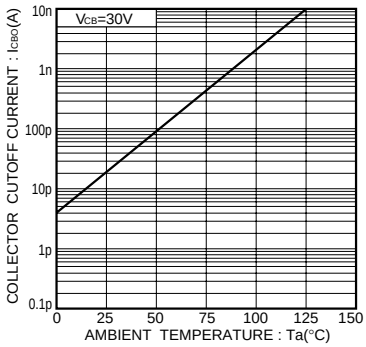


Fig.17 Noise characteristics (I)

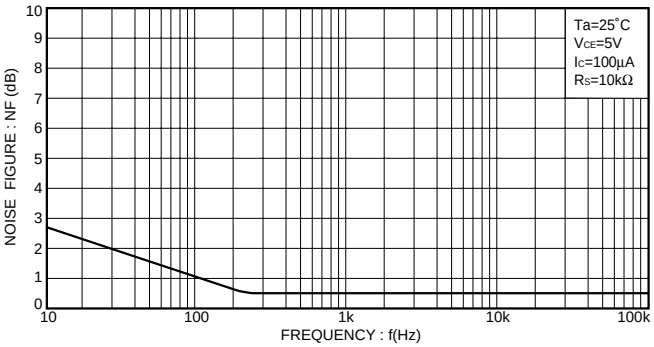


Fig.18 Noise vs. collector current

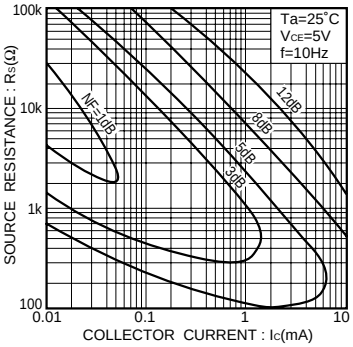


Fig.19 Noise characteristics (II)

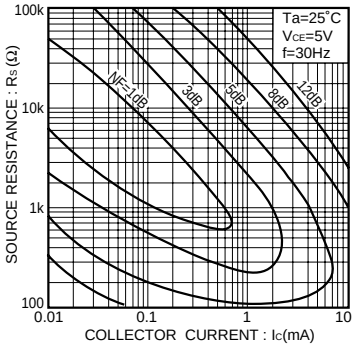


Fig.20 Noise characteristics (III)

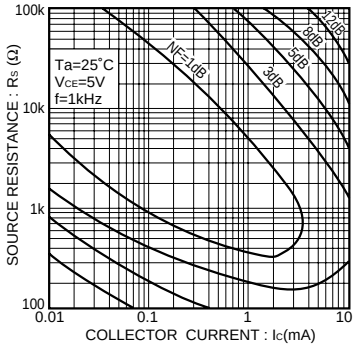


Fig.21 Noise characteristics (IV)

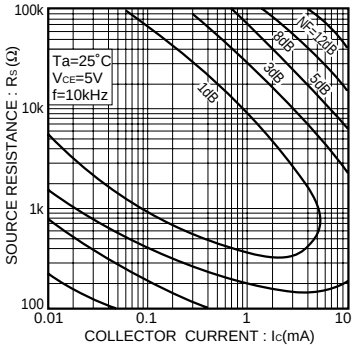


Fig. 22 Noise characteristics (V)

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