

# PNP General Purpose Transistor

## BC858BW / BC858B

### ●Features

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

### ●Package, marking and packaging specifications

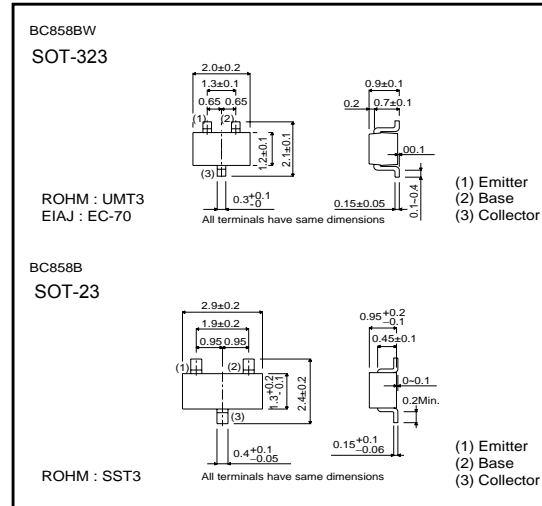
Part No.	BC858BW	BC858B
Packaging type	UMT3	SST3
Marking	G3K	G3K
Code	T106	T116
Basic ordering unit (pieces)	3000	3000

### ●Absolute maximum ratings ( $T_a = 25^\circ C$ )

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	$T_J$	150	$^\circ C$
Storage temperature	$T_{stg}$	-65 to +150	$^\circ C$

\* When mounted on  $7 \times 5 \times 0.6$  mm ceramic board.

### ●External dimensions (Unit : mm)



### ●Electrical characteristics ( $T_a = 25^\circ C$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	-30	-	-	V	$I_C = -50\mu A$
Collector-emitter breakdown voltage	$BV_{CEO}$	-30	-	-	V	$I_C = -1mA$
Emitter-base breakdown voltage	$BV_{EBO}$	-5	-	-	V	$I_E = -50\mu A$
Collector cutoff current	$I_{CBO}$	-	-	-100	nA	$V_{CB} = -30V$
		-	-	4	$\mu A$	$V_{CB} = -30V, T_a = 150^\circ C$
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

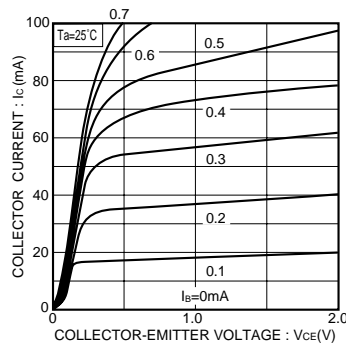


Fig.1 Grounded emitter output characteristics (I)

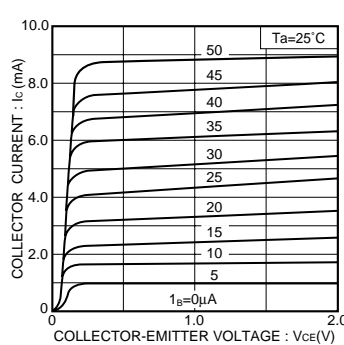


Fig.2 Grounded emitter output characteristics (II)

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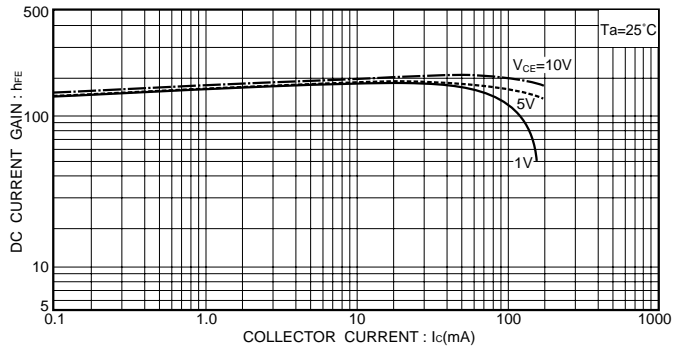


Fig.3 DC current gain vs. collector current (I)

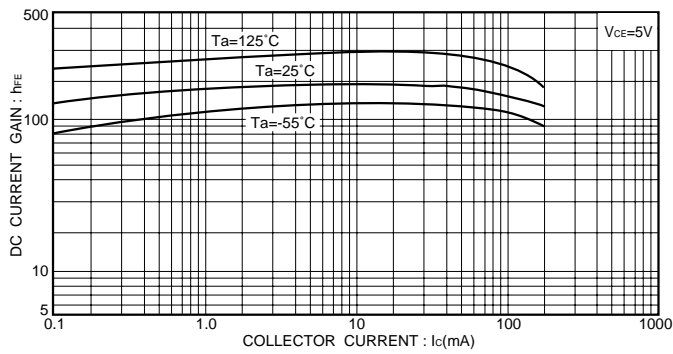


Fig.4 DC current gain vs. collector current (II)

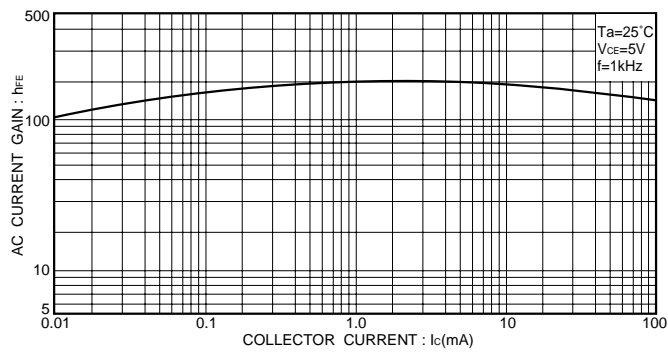


Fig.5 AC current gain vs. collector current

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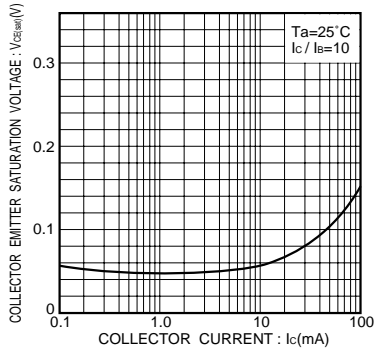


Fig.6 Collector-emitter saturation voltage vs. collector current

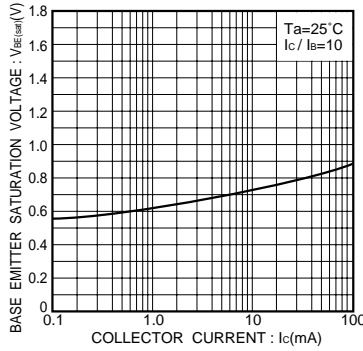


Fig.7 Base-emitter saturation voltage vs. collector current

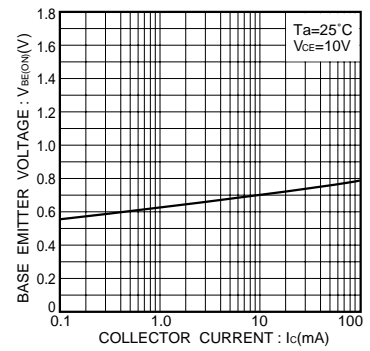


Fig.8 Grounded emitter propagation characteristics

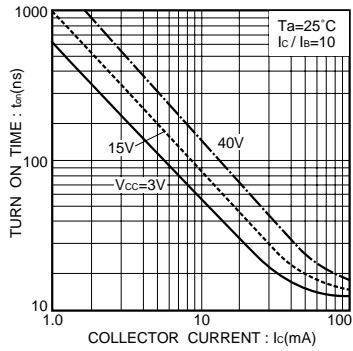


Fig.9 Turn-on time vs. collector current

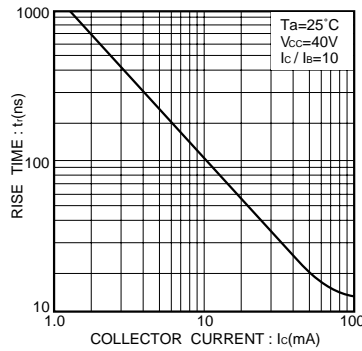


Fig.10 Rise time vs. collector current

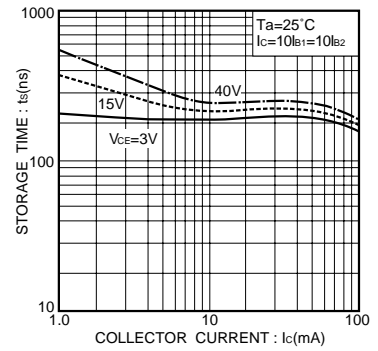


Fig.11 Storage time vs. collector current

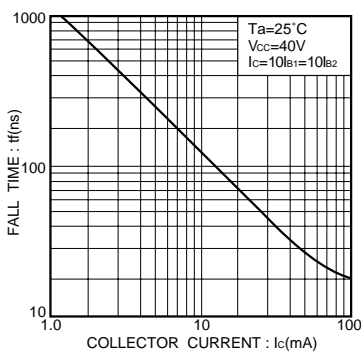


Fig.12 Fall time vs. collector current

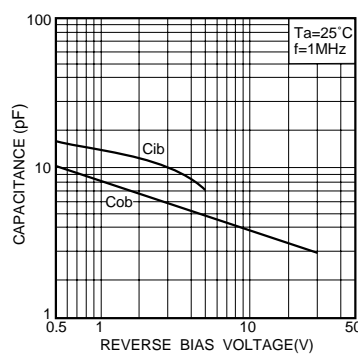


Fig.13 Input/output capacitance vs. voltage

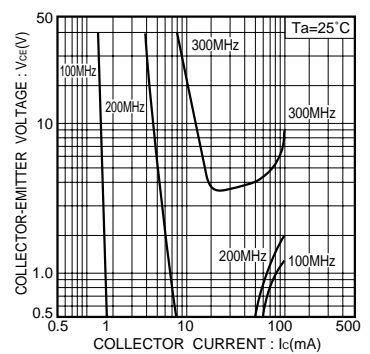


Fig.14 Gain bandwidth product

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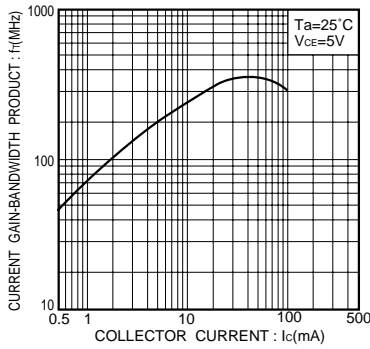


Fig.15 Gain bandwidth product vs. collector current

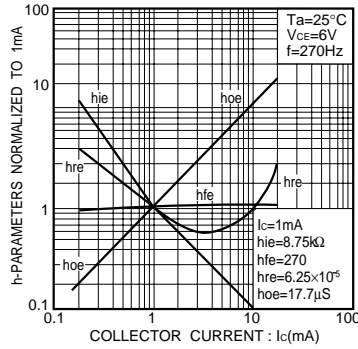


Fig.16 h parameter vs. collector current

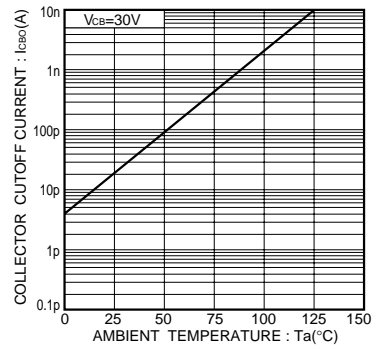


Fig.17 Noise characteristics (I)

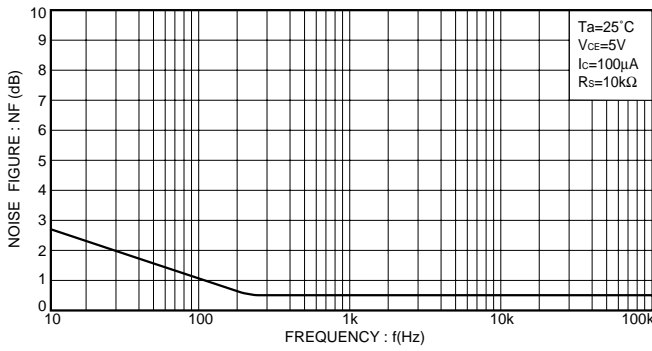


Fig.18 Noise vs. collector current

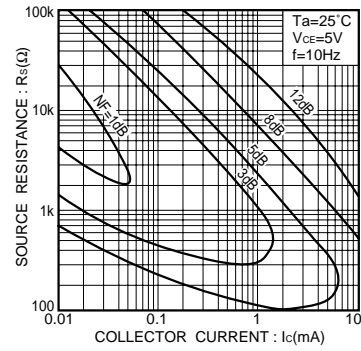


Fig.19 Noise characteristics (II)

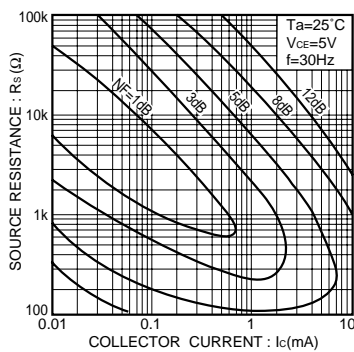


Fig.20 Noise characteristics (III)

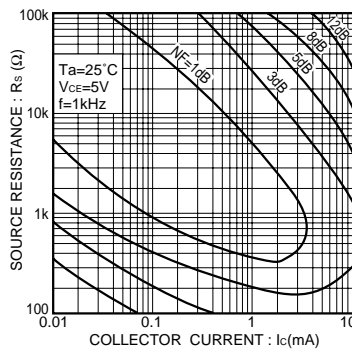


Fig.21 Noise characteristics (IV)

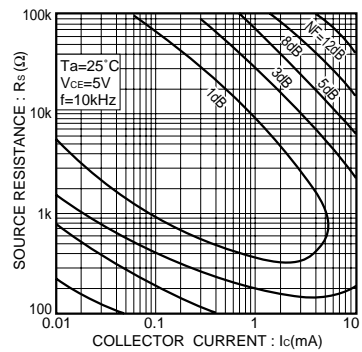


Fig.22 Noise characteristics (V)

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