PNP General Purpose Transistor

BC858BW / BC858B

●Features

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

●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

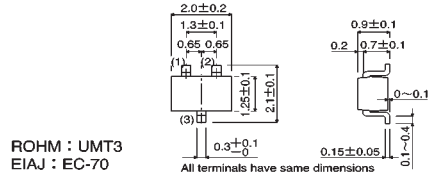
●Absolute maximum ratings (Ta=25℃)

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	℃
Storage temperature	Tstg	−55~+150	℃

* When mounted on a x 5 x 0.6 mm ceramic board.

●External dimensions (Units : mm)

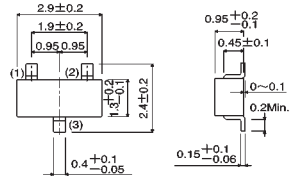
BC858BW



ROHM : UMT3
EIAJ : EC-70

(1) Emitter
(2) Base
(3) Collector

BC858B



ROHM : SST3

(1) Emitter
(2) Base
(3) Collector

●Electrical characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−30	—	—	V	I_C = −50 μA
Collector-emitter breakdown voltage	BV_{CEO}	−30	—	—	V	I_C = −1mA
Emitter-base breakdown voltage	BV_{EBO}	−5	—	—	V	I_E = −50 μA
Collector cutoff current	I_{CBO}	—	—	−15	nA	V_{CB} = −30V
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 characteristic curves

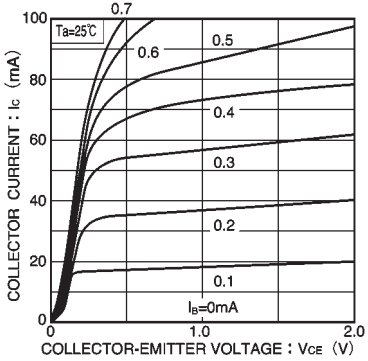


Fig.1 Grounded emitter output characteristics (Ⅰ)

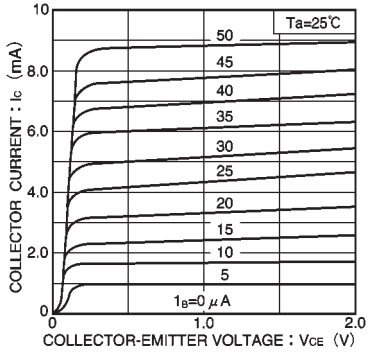


Fig.2 Grounded emitter output characteristics (Ⅱ)

(SPEC-A32)

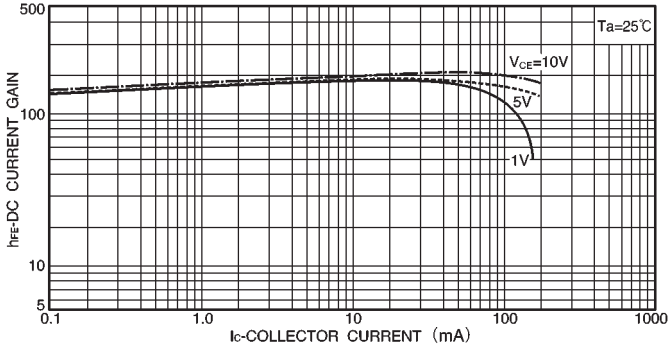


Fig.3 DC current gain vs. collector current (Ⅰ)

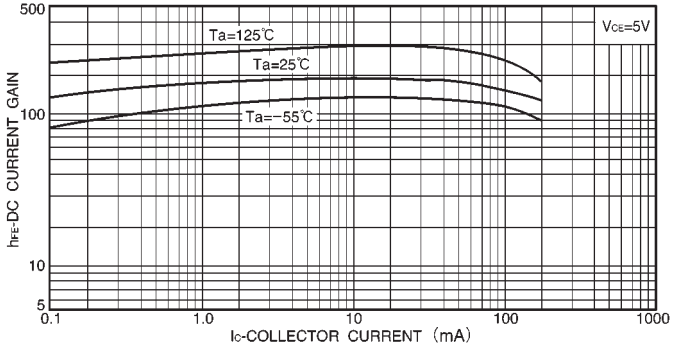


Fig.4 DC current gain vs. collector current (Ⅱ)

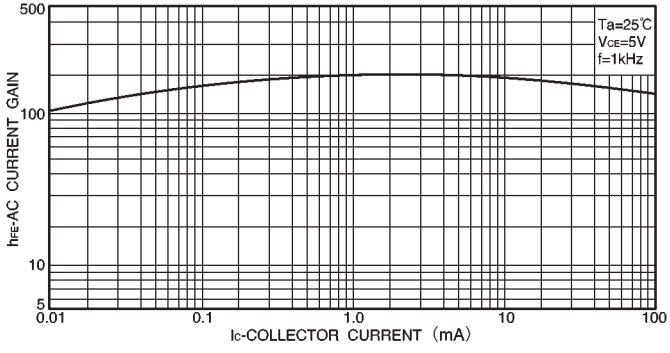


Fig.5 AC current gain vs. collector current

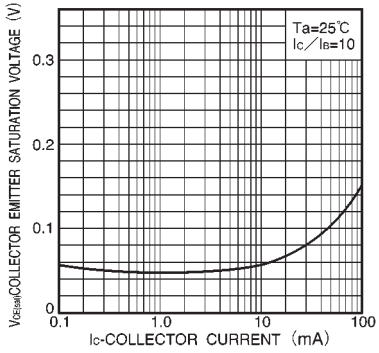


Fig.6 Collector-emitter saturation voltage vs. collector current

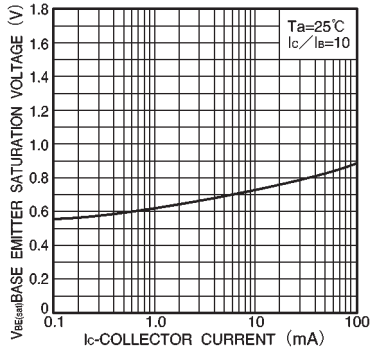


Fig.7 Base-emitter saturation voltage vs. collector current

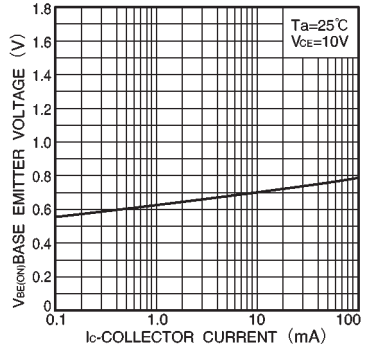


Fig.8 Grounded emitter propagation characteristics

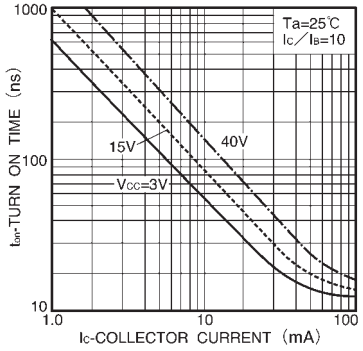


Fig.9 Turn-on time vs. collector current

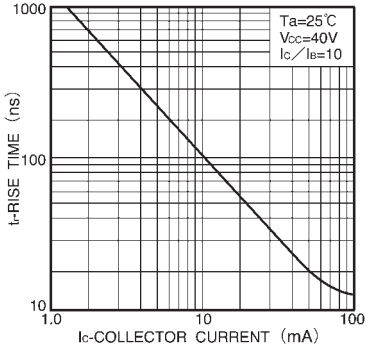


Fig.10 Rise time vs. collector current

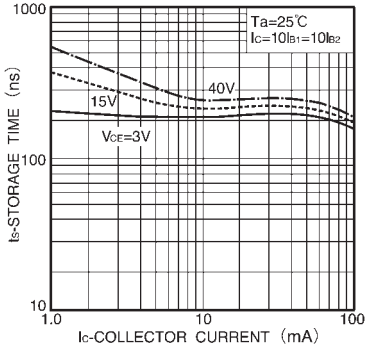


Fig.11 Storage time vs. collector current

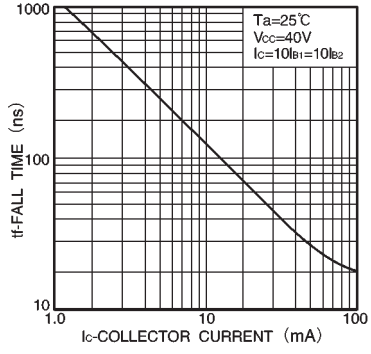


Fig.12 Fall time vs. collector current

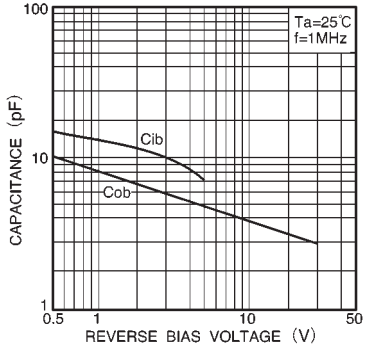


Fig.13 Input/output capacitance vs. voltage

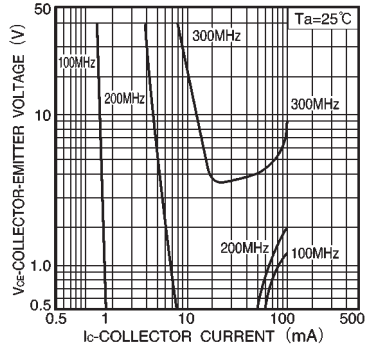


Fig.14 Gain bandwidth product

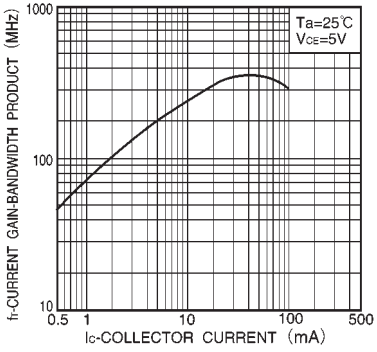


Fig.15 Gain bandwidth product vs. collector current

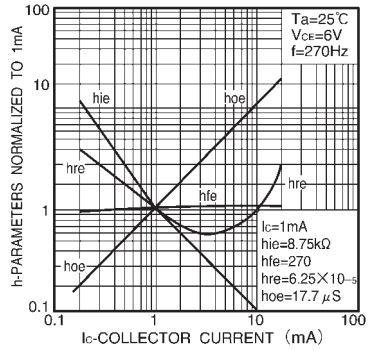


Fig.16 h parameter vs. collector current

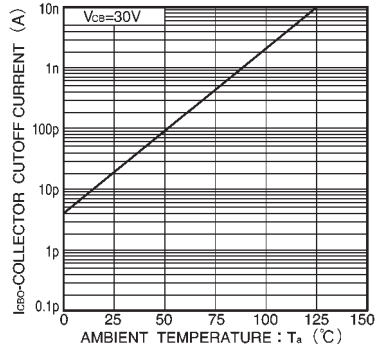


Fig.17 Noise characteristics (Ⅰ)

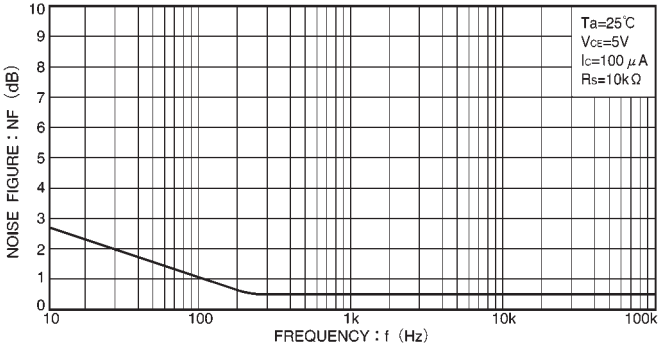


Fig.18 Noise vs. collector current

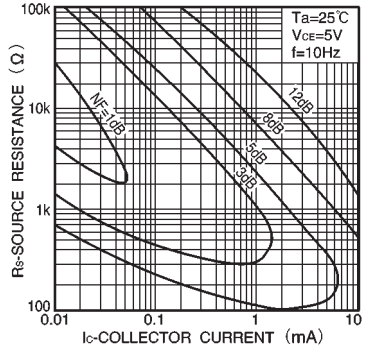


Fig.19 Noise characteristics (Ⅱ)

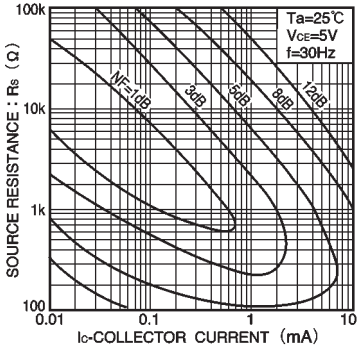


Fig.20 Noise characteristics (Ⅲ)

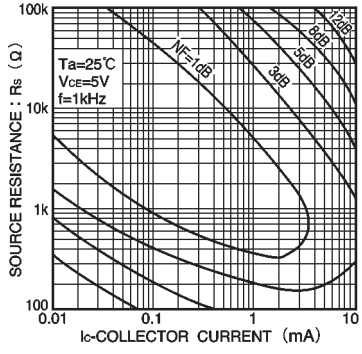


Fig.21 Noise characteristics (Ⅳ)

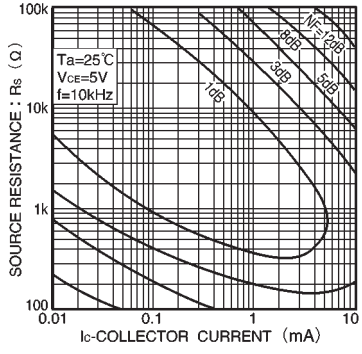


Fig. 22 Noise characteristics (Ⅴ)