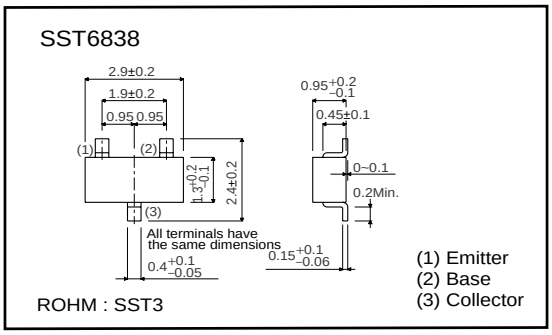
NPN general purpose transistor

SST6838

●Features

1) BV_{CEO} minimum is 40V (I_C = 1mA)
2) Complements the SST6839.

●External dimensions (Unit : mm)



●Package, marking and packaging specifications

Part No.	SST6838
Pacaging type	SST3
Marking	RBR
Code	T116
Basic ordering unit (pieces)	3000

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CEO}	40	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	0.2	A
Collector power dissipation	P_C	0.2	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	−55 to +150	°C

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	
Collector-base breakdown voltage	BV_{CBO}	50	–	–	V	I_C=10μA	(Ta= −40°C to +125°C)
Collector-emitter breakdown voltage	BV_{CEO}	40	–	–	V	I_C=1mA	(Ta= −40°C to +125°C)
Collector cutoff current	I_{CBO}	–	–	0.5	μA	V_{CB}=30V	(Ta=85°C)
		–	–	5		V_{CB}=30V	(Ta=125°C)
Emitter cutoff current	I_{EBO}	–	–	0.5	μA	V_{EB}=4V	(Ta=85°C)
		–	–	5		V_{EB}=4V	(Ta=125°C)
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–	0.4	V	I_C/I_B=50mA/5mA	(Ta=25°C)
		–	–	0.5		I_C/I_B=10mA/0.2mA	(Ta=85°C)
		–	–	0.7		I_C/I_B=10mA/0.2mA	(Ta=125°C)
DC current transfer ratio	h_{FE1}	200	–	–	–	V_{CE}/I_C=5V/1mA	(Ta= −40°C to +25°C)
		–	–	800		V_{CE}/I_C=5V/1mA	(Ta=85°C)
		–	–	1000		V_{CE}/I_C=5V/1mA	(Ta=125°C)
DC current transfer ratio	h_{FE2}	150	–	–	–	V_{CE}/I_C=5V/10mA	(Ta= −40°C to +25°C)
Transition frequency	f_T	50	180	–	MHz	V_{CE}=12V , I_C=2mA , f=100MHz	(Ta=25°C)
Collector output capacitance	Cob	–	2	3.5	pF	V_{CB}=12V , f=1MHz	(Ta=25°C)
Emitter input capacitance	Cib	–	17	–	pF	V_{EB}=0.5V , f=1MHz	(Ta=25°C)

●**Electrical characteristic curves**

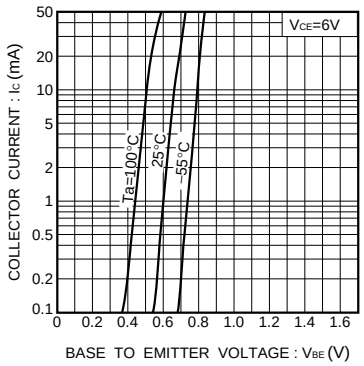


Fig.1 Grounded emitter propagation characteristics

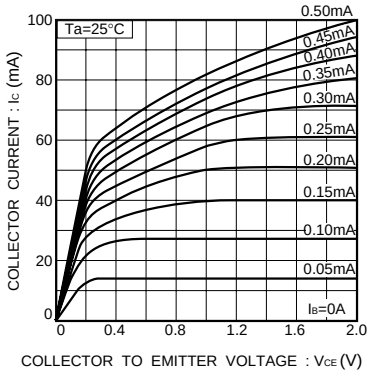


Fig.2 Grounded emitter output characteristics (I)

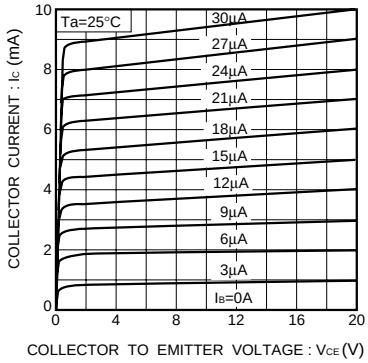


Fig.3 Grounded emitter output characteristics (II)

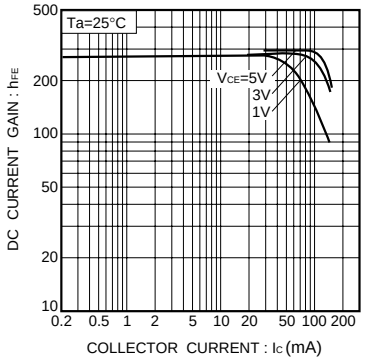


Fig.4 DC current gain vs. collector current (I)

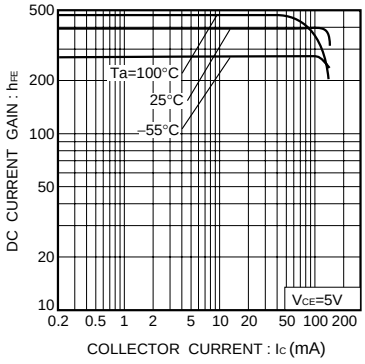


Fig.5 DC current gain vs. collector current (II)

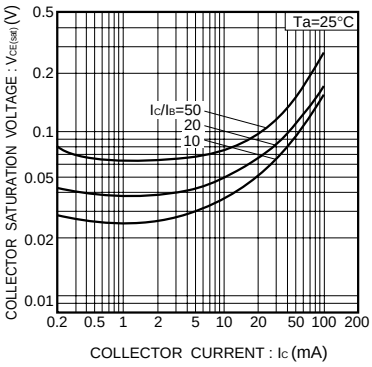


Fig. 6 Collector-emitter saturation voltage vs. collector current

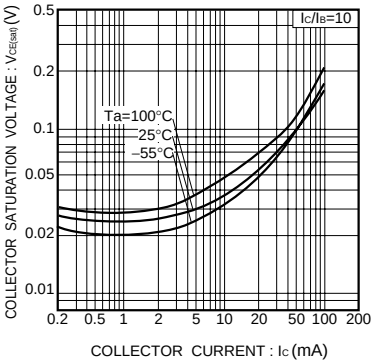


Fig.7 Collector-emitter saturation voltage vs. collector current (I)

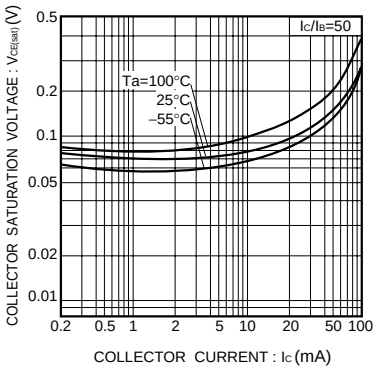


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

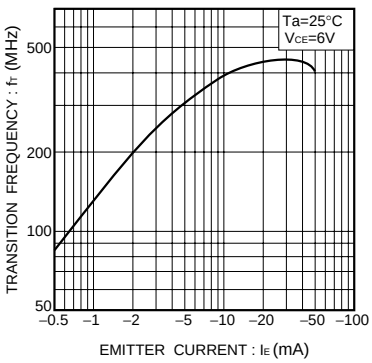


Fig.9 Gain bandwidth product vs. emitter current

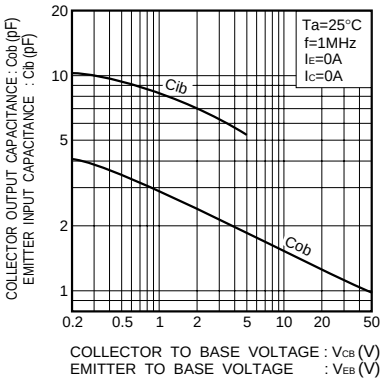


Fig.10 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

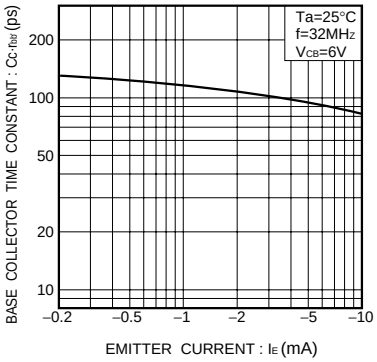


Fig.11 Base-collector time constant vs. emitter current

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