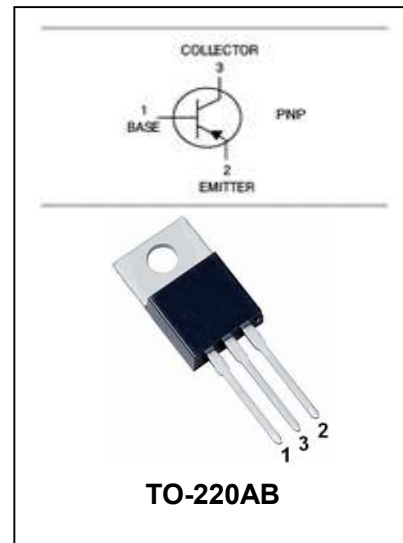


Power Transistor

2SB1185

FEATURES

- Low $V_{CE(sat)}$.
 $V_{CE(sat)} = -0.5V$ (TYP.)
($I_C/I_B = -2A/-0.2A$)
- Complements the 2SD1762.



MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current DC Pulse	-3 -4.5	A
P_C	Collector Dissipation	2	W
T_j, T_{stg}	Junction and Storage Temperature	-55 to +150	°C

Power Transistor

2SB1185

ELECTRICAL CHARACTERISTICS Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -50\mu A, I_E = 0$	-60			V
Collector-emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, I_B = 0$	-50			V
Emitter-base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -50\mu A, I_C = 0$	-5			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -40V, I_E = 0$			-1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -4V, I_C = 0$			-1	μA
DC Current Gain	h_{FE}	$V_{CE} = -6V, I_C = -1mA$	60		320	
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -2A, I_B = -0.2A$			-1	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -2A, I_B = -0.2A$			-1.5	V
Transition Frequency	f_T	$V_{CE} = -5V, I_E = -0.5A$ $F = 30MHz$		70		MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$		50		pF

CLASSIFICATION OF h_{FE}

Range	D	E	F
Marking	90-180	135-270	200-400

Power Transistor

2SB1185

TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

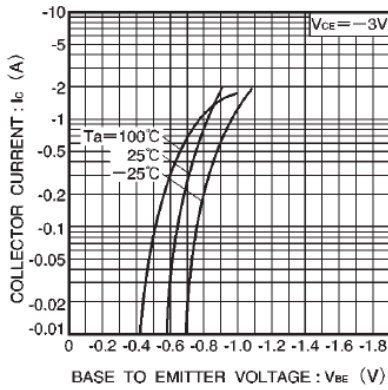


Fig.1 Grounded emitter propagation characteristics

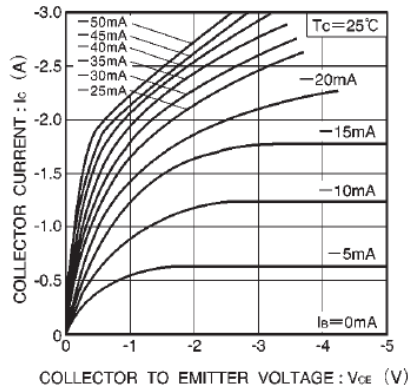


Fig.2 Grounded emitter output characteristics (I)

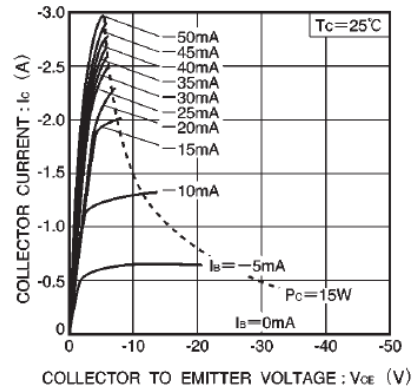


Fig.3 Grounded emitter output characteristics (II)

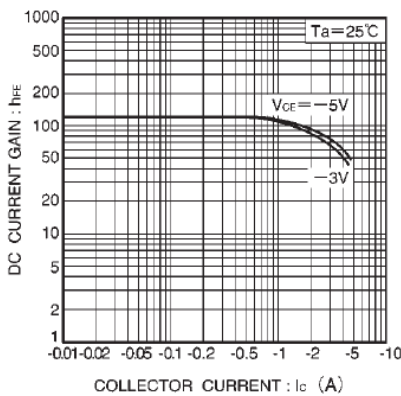


Fig.4 DC current gain vs. collector current (I)

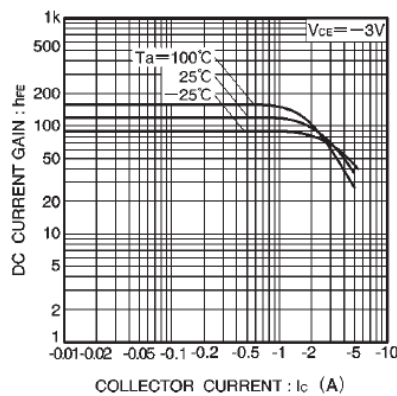


Fig.5 DC current gain vs. collector current (II)

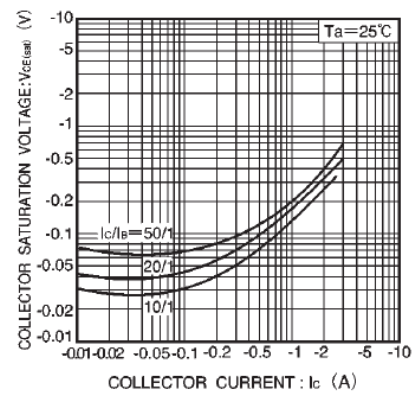


Fig.6 Collector-emitter saturation voltage vs. collector current

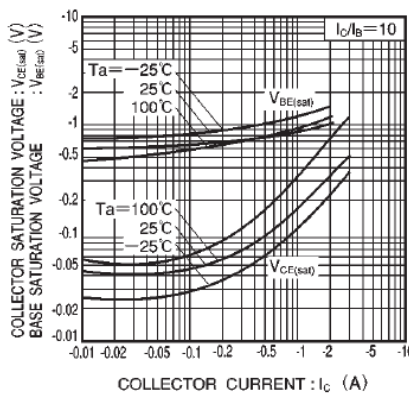


Fig.7 Collector-emitter saturation voltage vs. collector current
Base-emitter saturation voltage vs. collector current

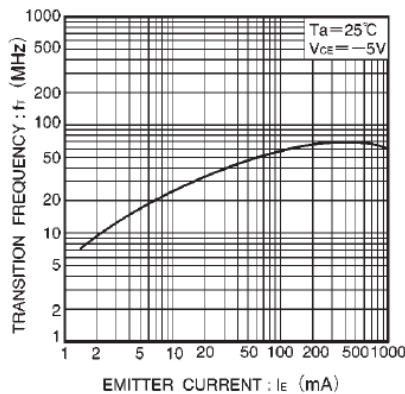


Fig.8 Gain bandwidth product vs. emitter current

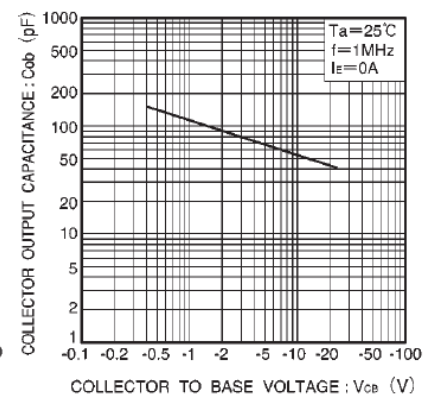


Fig.9 Collector output capacitance vs. collector base voltage

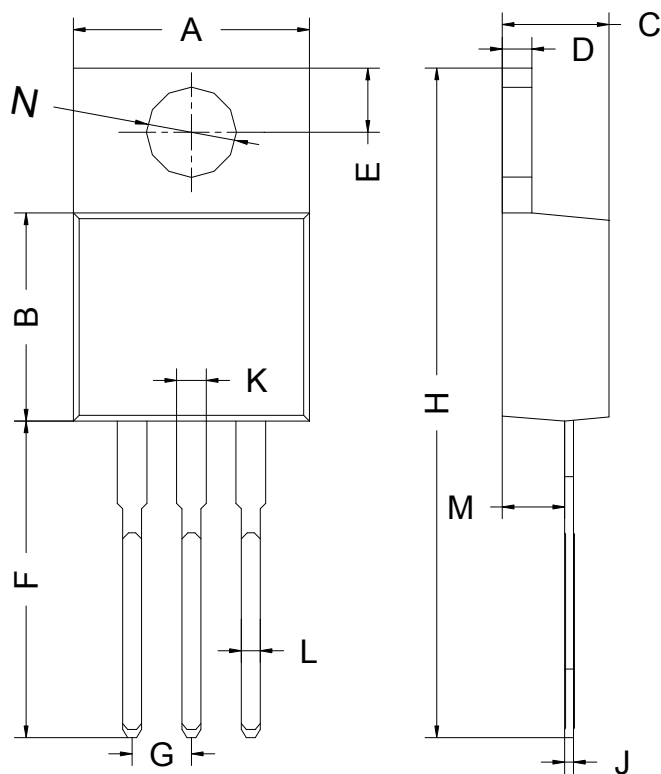
Power Transistor

2SB1185

PACKAGE OUTLINE

Plastic surface mounted package

TO-220AB



TO-220AB		
Dim	Min	Max
A	9.80	10.30
B	8.70	9.10
C	4.47	4.67
D	1.17	1.37
E	2.64	2.84
F	13.14	13.74
G	2.44	2.64
H	28.03	28.83
J	0.28	0.48
K	1.22	1.32
L	0.71	0.91
M	2.40	2.60
N	3.76	3.96
All Dimensions in mm		