Ordering number: EN 1785A

SANYO

No.1785A

2SB1119/2SD1619

PNP/NPN Epitaxial Planar Silicon Transistors

LF Amp, Electronic Governor Applications

Features

- **Very small size making it easy to provide high-density, small-sized hybrid IC's**

( ): 2SB1119

Absolute Maximum Ratings at Ta=25°C

			unit
Collector to Base Voltage	V_{CBO}	(-)25	V
Collector to Emitter Voltage	V_{CEO}	(-)25	V
Emitter to Base Voltage	V_{EBO}	(-)5	V
Collector Current	I_C	(-)1	A
Collector Current(Pulse)	I_{CP}	(-)2	A
Collector Dissipation	P_C	500	mW
	P_C Mounted on ceramic board (250mm² x 0.8mm)	1.3	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55 to +150	°C

Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=(-)20V, I_E=0			(-)0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(-)4V, I_C=0			(-)0.1	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=(-)2V, I_C=(-)50mA	100*		560*	
	$h_{FE(2)}$	V_{CE}=(-)2V, I_C=(-)1A	40			
Gain-Bandwidth Product	f_T	V_{CE}=(-)10V, I_C=(-)50mA		180		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=(-)500mA, I_B=(-)50mA		0.1	0.3	V
				(-0.15)	(-0.7)	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=(-)500mA, I_B=(-)50mA		(-)0.85	(-)1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=(-)10μA, I_E=0	(-)25			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=(-)1mA, R_{BE}=∞	(-)25			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E=(-)10μA, I_C=0	(-)5			V
Output Capacitance	c_{ob}	V_{CB}=(-)10V, f=1MHz		15		pF
				(25)		pF

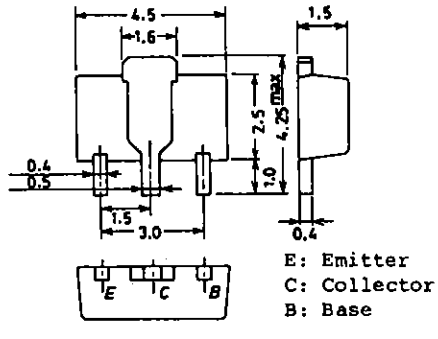
*: The 2SB1119/2SD1619 are classified by 50mA h_{FE} as follows:

100	R	200	140	S	280	200	T	400	280	U	560

Marking 2SB1119:BB
2SD1619:DB

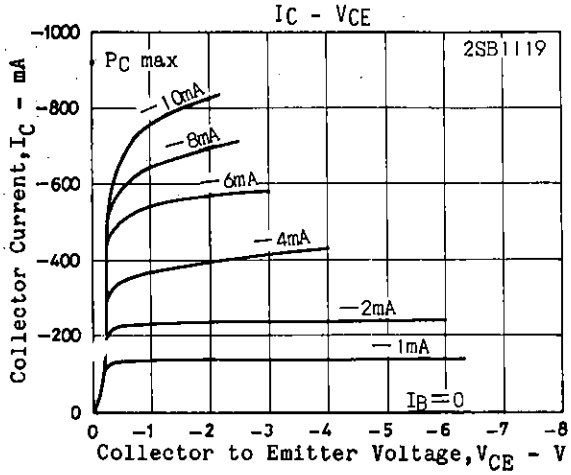
h_{FE} rank :R,S,T,U

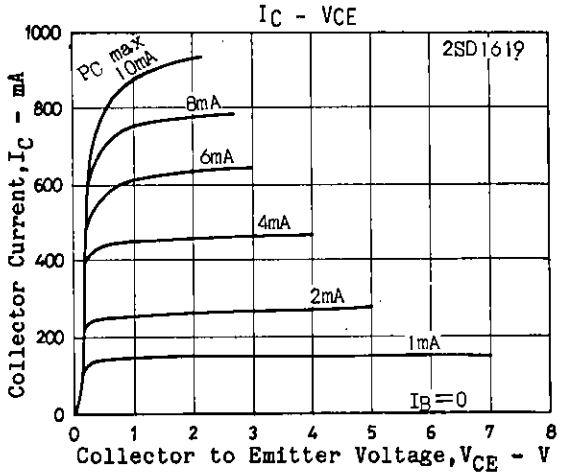
Package Dimensions 2038
(unit:mm)

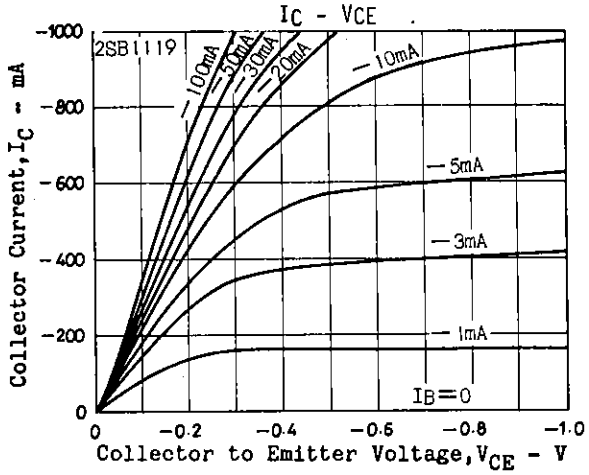


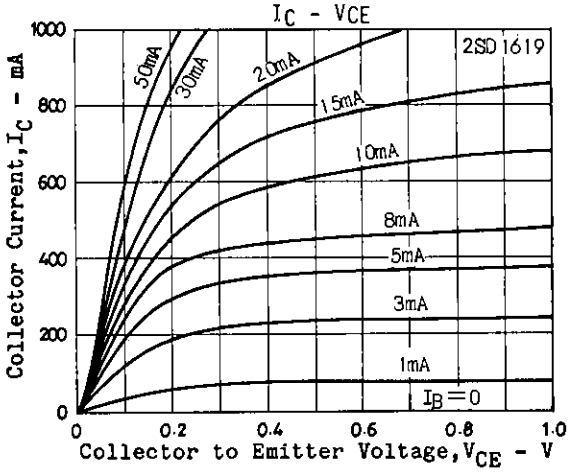
E: Emitter
C: Collector
B: Base

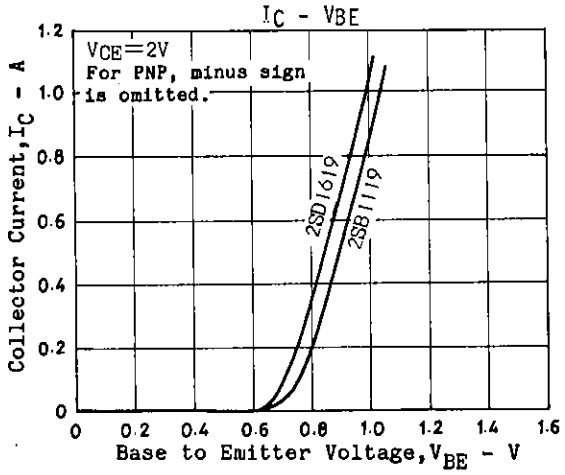
SANYO: PCP
(Bottom View)

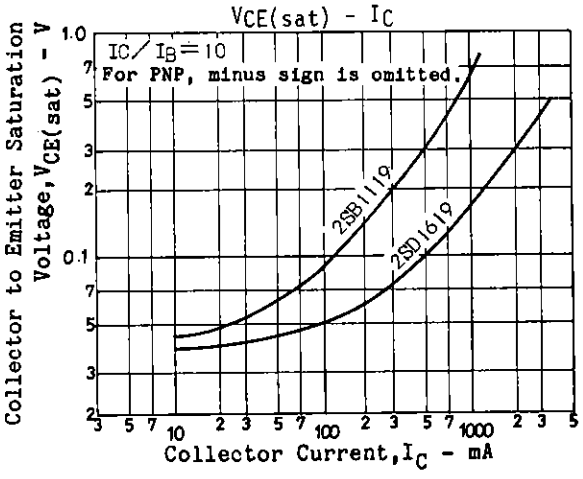

IC - VCE
2SB1119
PC max
10mA
8mA
6mA
4mA
2mA
1mA
IB=0
Collector Current, IC - mA
Collector to Emitter Voltage, VCE - V

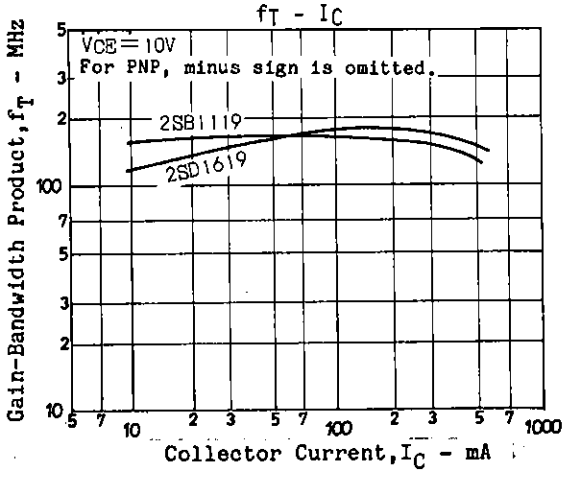

IC - VCE
2SD1619
PC max
10mA
8mA
6mA
4mA
2mA
1mA
IB=0
Collector Current, IC - mA
Collector to Emitter Voltage, VCE - V

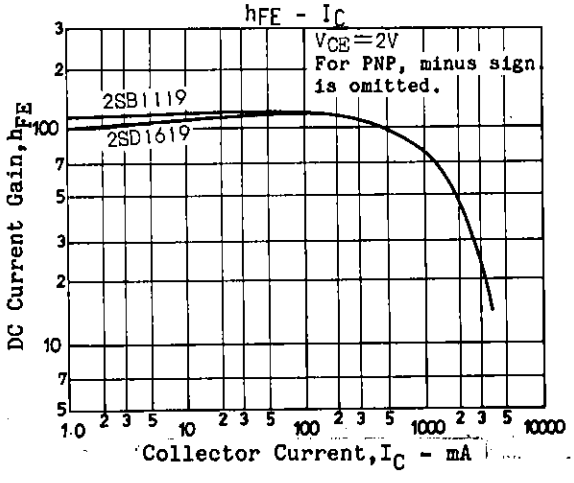

IC - VCE
2SB1119
100mA
50mA
30mA
20mA
10mA
5mA
3mA
1mA
IB=0
Collector Current, IC - mA
Collector to Emitter Voltage, VCE - V

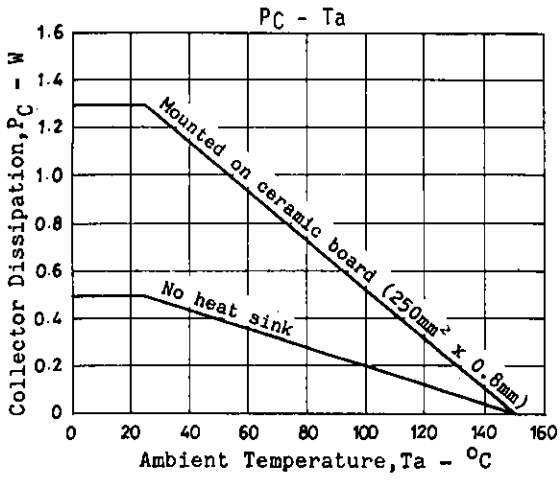

IC - VCE
2SD1619
50mA
30mA
20mA
15mA
10mA
8mA
5mA
3mA
1mA
IB=0
Collector Current, IC - mA
Collector to Emitter Voltage, VCE - V

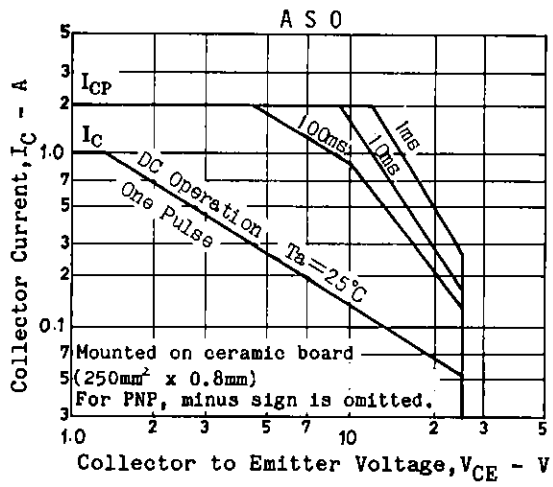

IC - VBE
VCE=2V
For PNP, minus sign is omitted.
2SD1619
2SB1119
Collector Current, IC - A
Base to Emitter Voltage, VBE - V


VCE(sat) - IC
IC / IB=10
For PNP, minus sign is omitted.
2SB1119
2SD1619
Collector to Emitter Saturation Voltage, VCE(sat) - V
Collector Current, IC - mA


fT - IC
VCE=10V
For PNP, minus sign is omitted.
2SB1119
2SD1619
Gain-Bandwidth Product, fT - MHz
Collector Current, IC - mA


hFE - IC
VCE=2V
For PNP, minus sign is omitted.
2SB1119
2SD1619
DC Current Gain, hFE
Collector Current, IC - mA





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