

Silicon PNP Power Transistors

2SB919

DESCRIPTION

- With TO-220C package
- Complement to type 2SD1235
- Low collector saturation voltage
- Large current capacity

APPLICATIONS

- Large current switching of relay drivers, high-speed inverters,converters

PINNING

PIN	DESCRIPTION
1	Emitter
2	Collector;connected to mounting base
3	Base

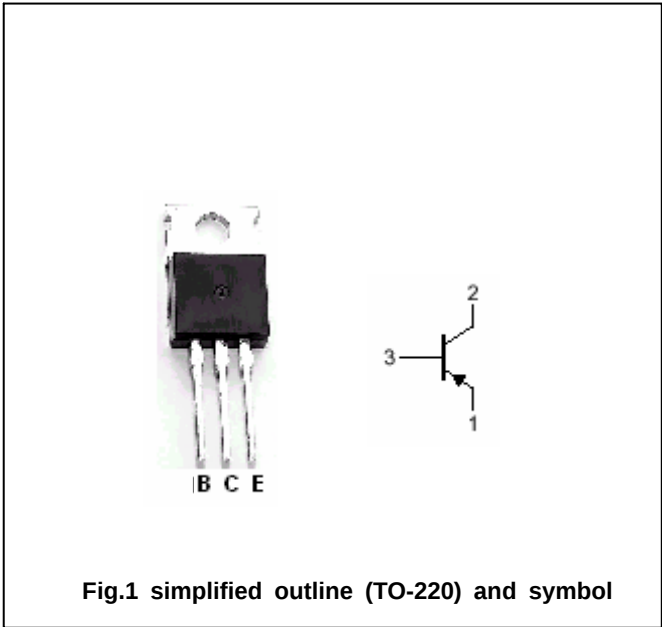


Fig.1 simplified outline (TO-220) and symbol

Absolute maximum ratings(Ta=25)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	-60	V
V_{CEO}	Collector-emitter voltage	Open base	-30	V
V_{EBO}	Emitter-base voltage	Open collector	-6	V
I_C	Collector current (DC)		-8	A
I_{CM}	Collector current-Peak		-15	A
P_C	Collector dissipation	$T_a=25$	1.75	W
		$T_C=25$	30	
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-50~150	

Silicon PNP Power Transistors

2SB919

CHARACTERISTICS

Tj=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C = -1mA$; $R_{BE} = \infty$	-30			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = -1mA$; $I_E = 0$	-60			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = -1mA$; $I_C = 0$	-6			V
V_{CEsat}	Collector-emitter saturation voltage	$I_C = -3A$; $I_B = -0.15A$			-0.5	V
I_{CBO}	Collector cut-off current	$V_{CB} = -40V$; $I_E = 0$			-0.1	mA
I_{EBO}	Emitter cut-off current	$V_{EB} = -4V$; $I_C = 0$			-0.1	mA
h_{FE-1}	DC current gain	$I_C = -1A$; $V_{CE} = -2V$	70		280	
h_{FE-2}	DC current gain	$I_C = -4A$; $V_{CE} = -2V$	30			
f_T	Transition frequency	$I_C = -1A$; $V_{CE} = -5V$		120		MHz

Switching times

t_{on}	Turn-on time	$I_C = -4A$; $V_{CC} = -10V$ $I_{B1} = -I_{B2} = -0.2A$; $R_L = 2.5\Omega$		0.1		μs
t_{stg}	Storage time			0.2		μs
t_f	Turn-off time			0.03		μs

◆ h_{FE-1} Classifications

Q	R	S
70-140	100-200	140-280

2SB919

Fig.2 Outline dimensions (unindicated tolerance: $\pm 0.10\text{mm}$)

Silicon PNP Power Transistors

2SB919

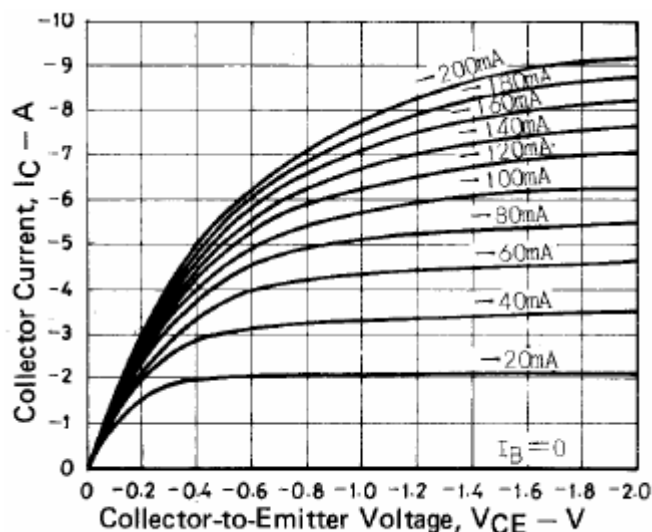


Fig.3 Static Characteristic

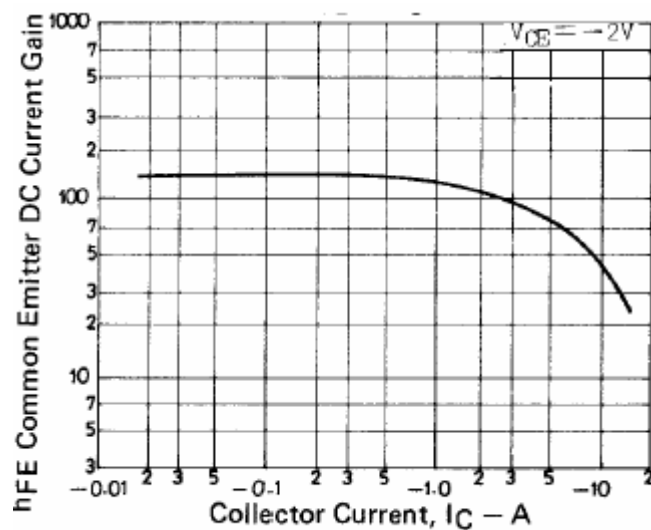


Fig.4 DC current Gain

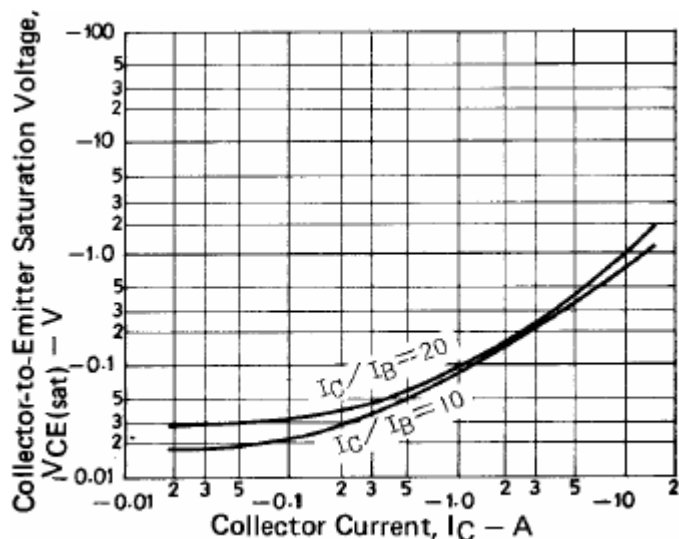


Fig.5 Collector-Emitter Saturation Voltage

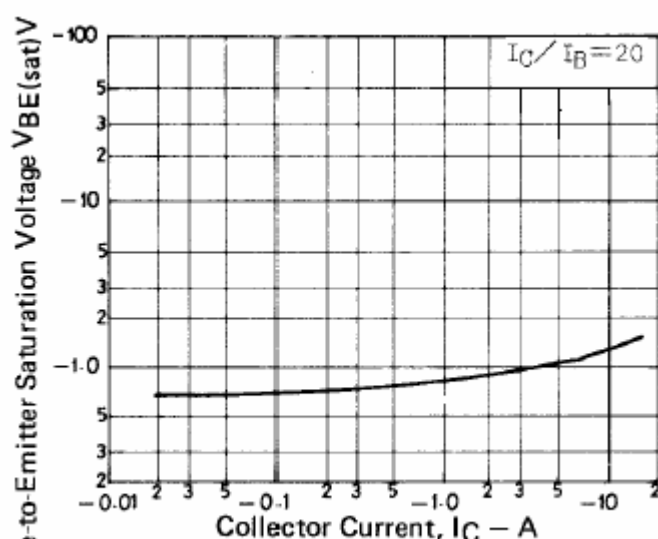


Fig.6 Base-Emitter Saturation Voltage

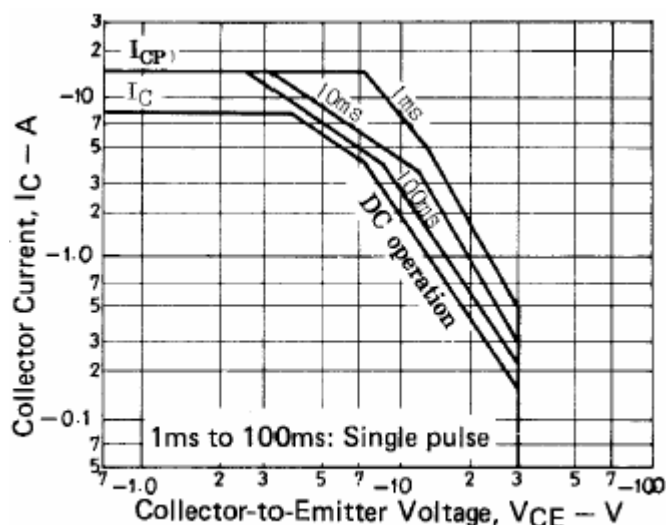


Fig.7 Safe Operating Area