

SANYO	No.2094B	2SB1135/2SD1668
		PNP/NPN Epitaxial Planar Silicon Transistors 50V/7A Switching Applications

Applications

- Relay drivers, high-speed inverters, converters, and other general high-current switching applications.

Features

- Low-saturation collector-to-emitter voltage : $V_{CE(sat)} = -0.4V$ max.
- Wide ASO leading to high resistance to breakdown.
- Micaless package facilitating mounting.

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Absolute Maximum Ratings at $T_a = 25^\circ C$

			unit
Collector-to-Base Voltage	V_{CB0}	(-)60	V
Collector-to-Emitter Voltage	V_{CE0}	(-)50	V
Emitter-to-Base Voltage	V_{EB0}	(-)6	V
Collector Current	I_C	(-)7	A
Collector Current (Pulse)	I_{CP}	(-)12	A
Collector Dissipation	P_C	2	W
		30	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55 to +150	$^\circ C$

$T_c = 25^\circ C$

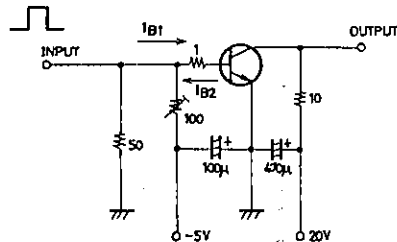
Electrical Characteristics at $T_a = 25^\circ C$

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)40V, I_E = 0$			(-)0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4V, I_C = 0$			(-)0.1	mA
DC Current Gain	$h_{FE(1)}$	$V_{CE} = (-)2V, I_C = (-)1A$	70※		280※	
	$h_{FE(2)}$	$V_{CE} = (-)2V, I_C = (-)5A$	30			
Gain Bandwidth Product	f_T	$V_{CE} = (-)5V, I_C = (-)1A$		10		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)4A, I_B = (-)0.4A$			(-)0.4	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)1mA, I_E = 0$	(-)60			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-)50			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)1mA, I_C = 0$	(-)6			V
Rise Time	t_{on}	See specified Test Circuit.		0.2		μs
Storage Time	t_{stg}	"	(0.7)0.9			μs
Fall Time	t_f	"	(0.1)0.3			μs

※ : The 2SB1135/2SD1668 are classified by 1A h_{FE} as follows :

70 Q 140	100 R 200	140 S 280
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Switching Time Test Circuit



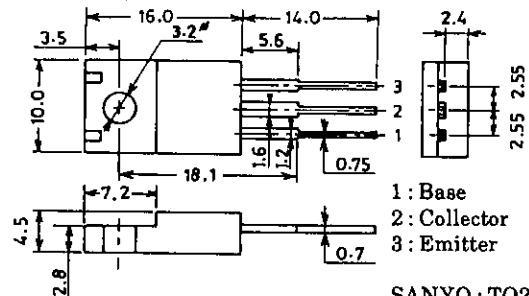
$10I_{B1} = -10I_{B2} = I_C = 2A$

For PNP, the polarity is reversed.

Unit (Resistance : Ω , Capacitance : F)

Package Dimensions 2041A

(unit : mm)



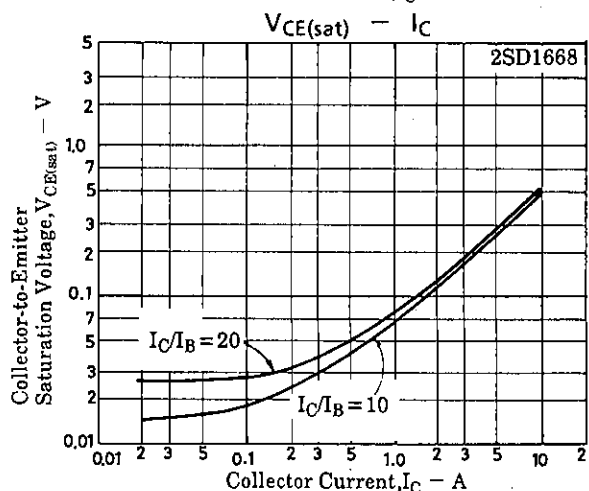
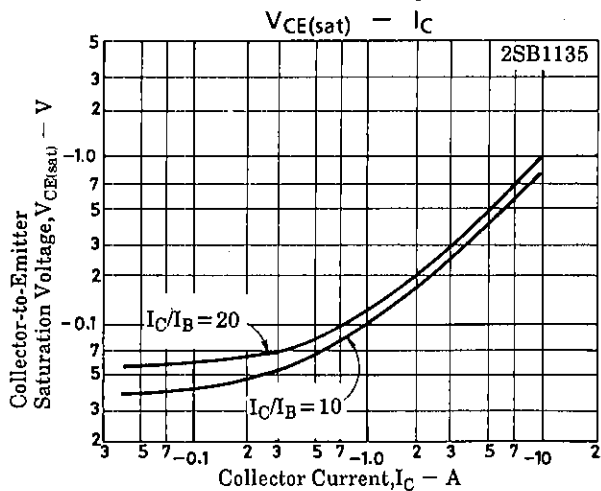
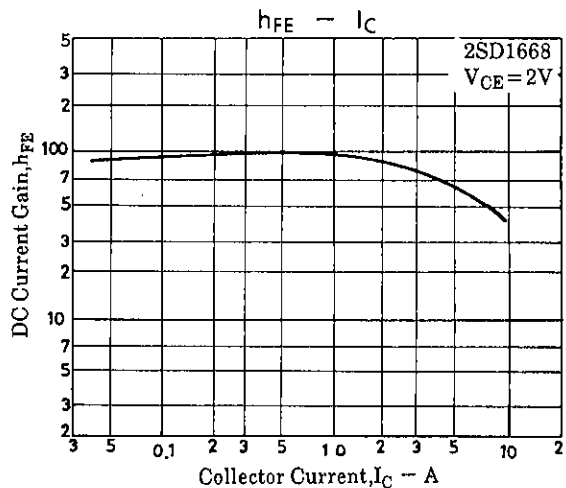
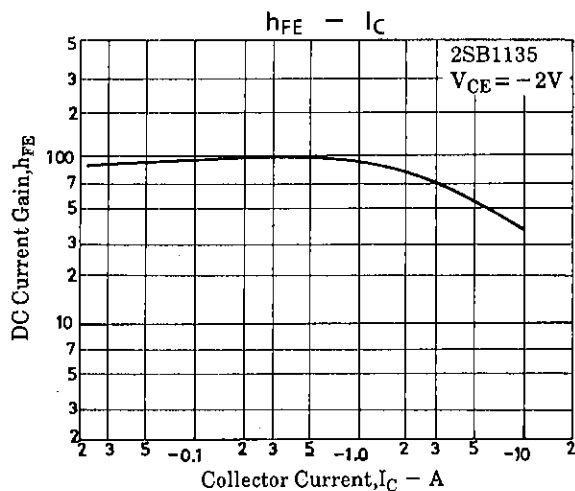
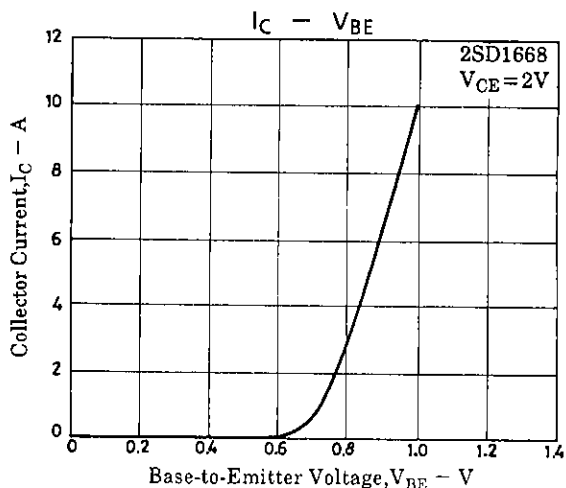
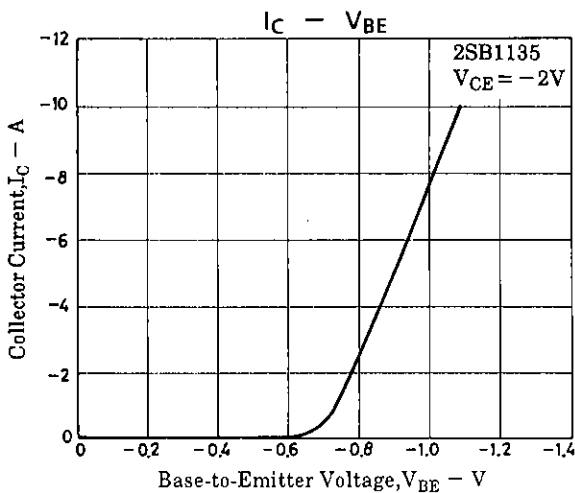
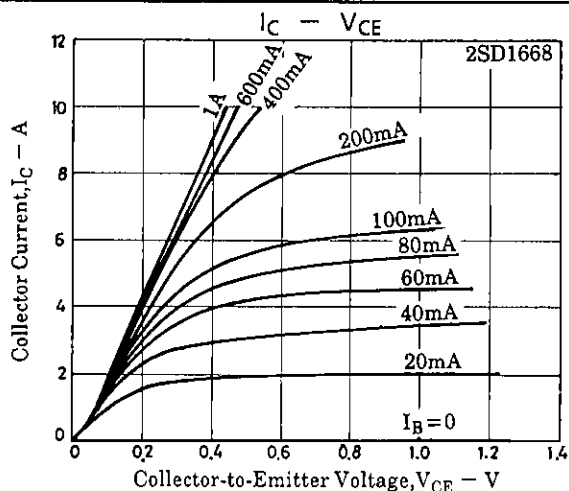
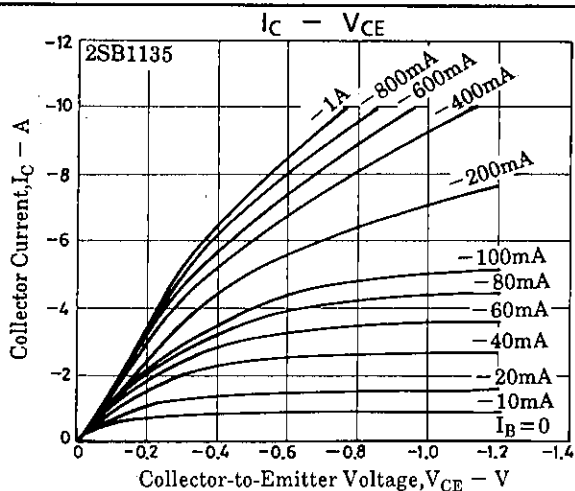
- 1: Base
- 2: Collector
- 3: Emitter

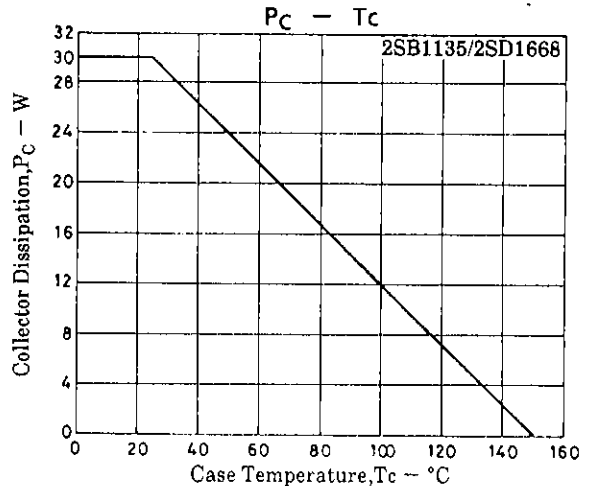
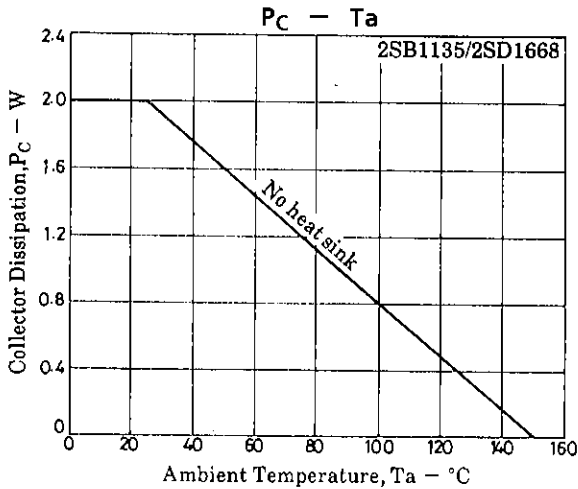
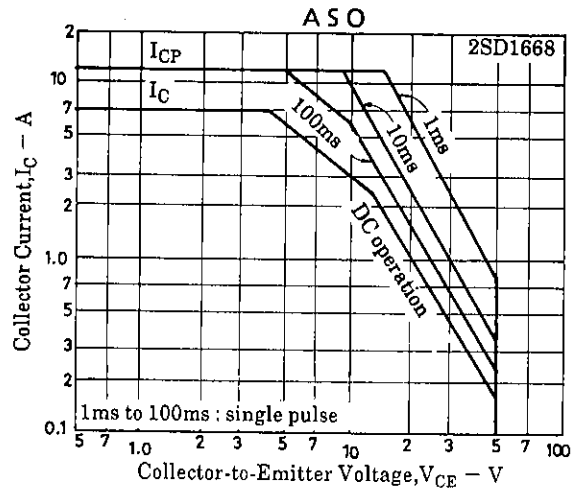
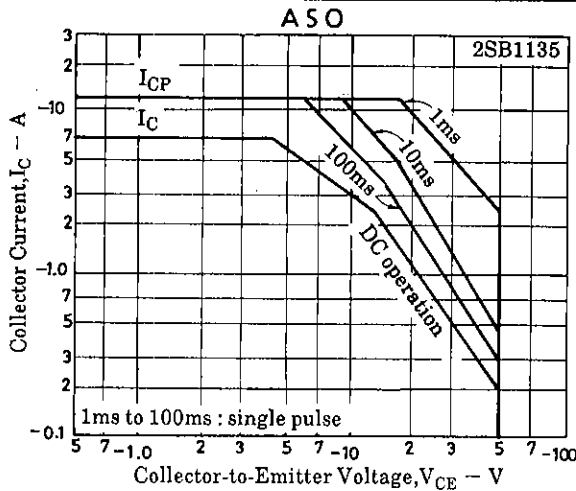
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