

SANYO

No.3715

2SB1509/2SD2282

PNP/NPN Epitaxial Planar Silicon Transistors

High-Current Switching Applications

Applications

- Relay drivers, high-speed inverters, converters.

Features

- Low collector-to-emitter saturation voltage : $V_{CE(sat)} = -0.5V_{max}$.
- Wide ASO and highly resistant to breakdown.
- Micaless package facilitating easy mounting.

() : 2SB1509

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

Collector-to-Base Voltage	V_{CBO}	(-)60	V
Collector-to-Emitter Voltage	V_{CEO}	(-)50	V
Emitter-to-Base Voltage	V_{EBO}	(-)6	V
Collector Current	I_C	(-)15	A
Peak Collector Current	i_{cp}	(-)30	A
Collector Dissipation	P_C	3.0	W
		50	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 $T_a = 25^\circ C$**

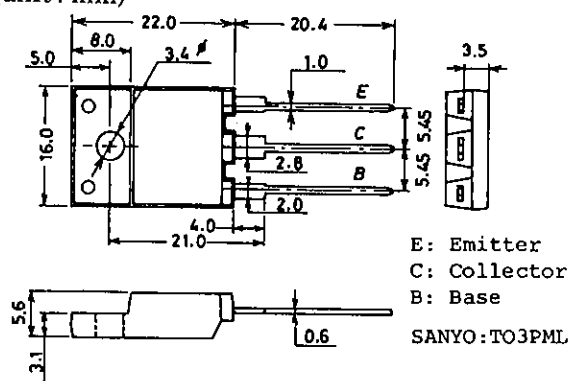
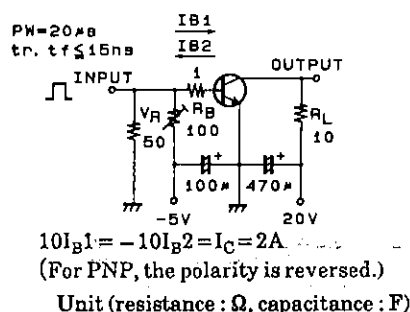
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)40V, I_E = 0$			0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4V, I_C = 0$			0.1	mA
DC Current Gain	$h_{FE}(1)$	$V_{CE} = (-)2V, I_C = (-)1A$	70%		280%	
	$h_{FE}(2)$	$V_{CE} = (-)2V, I_C = (-)8A$	30			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)5V, I_C = (-)1A$		20		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)8A, I_B = (-)0.4A$		(-0.26)	(-0.5)	V
				0.18	0.4	
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
Turn-ON Time	t_{on}	See specified Test Circuit.		0.2		μs
Storage Time	t_{stg}	"		(0.5)1.0		μs
Fall Time	t_f	"		0.1		μs

* : The 2SB1509/2SD2282 are classified by 1A h_{FE} as follows.

70	Q	140	100	R	200	140	S	280
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Package Dimensions 2039A

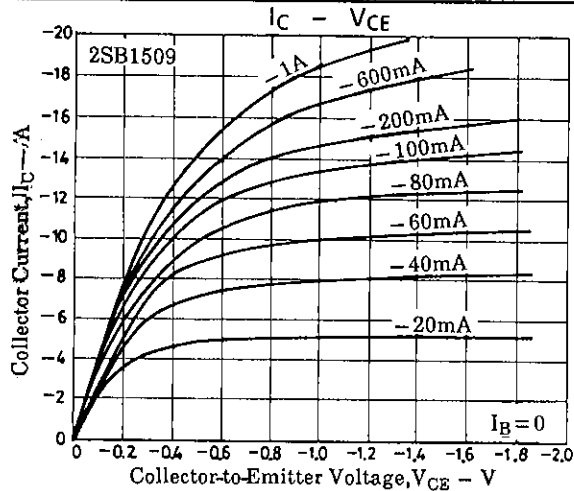
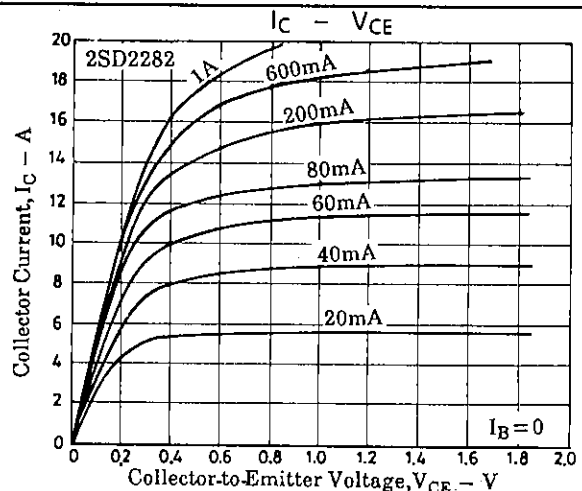
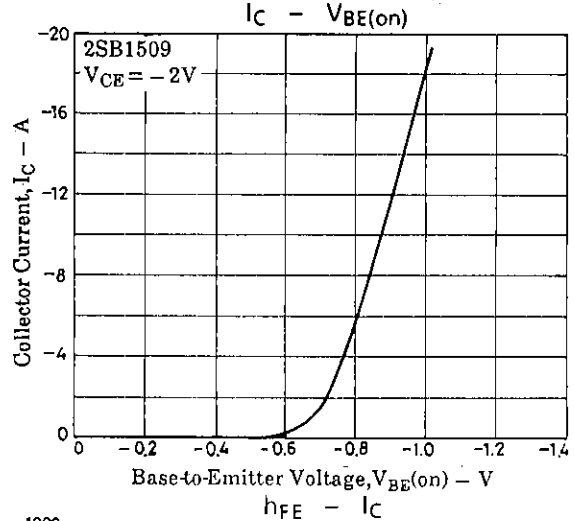
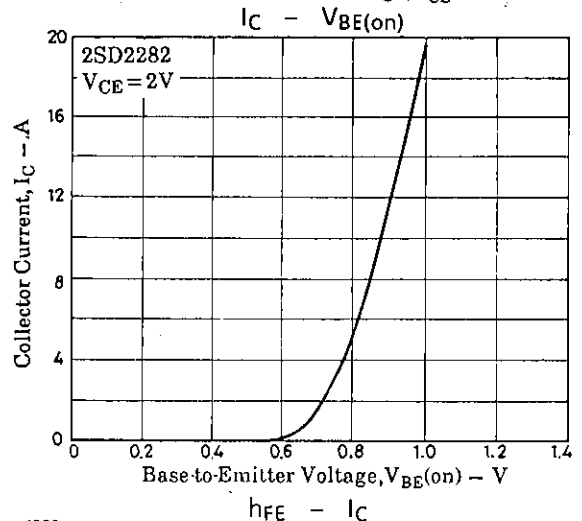
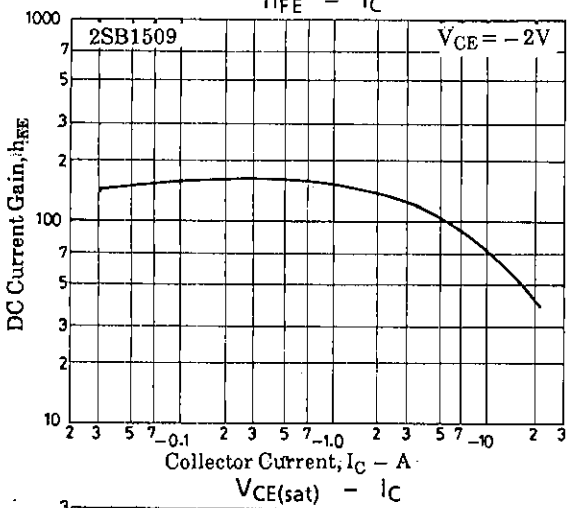
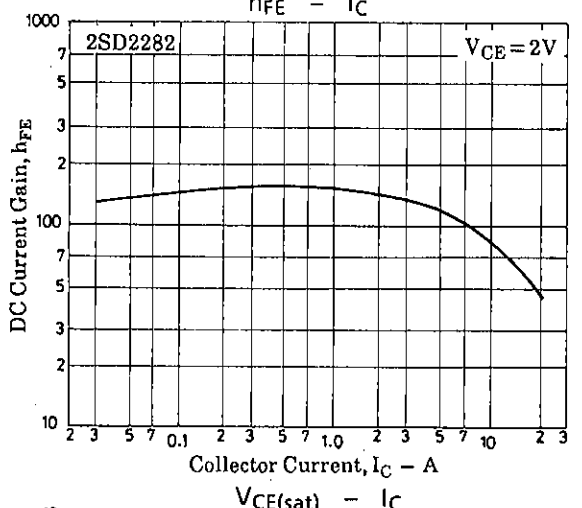
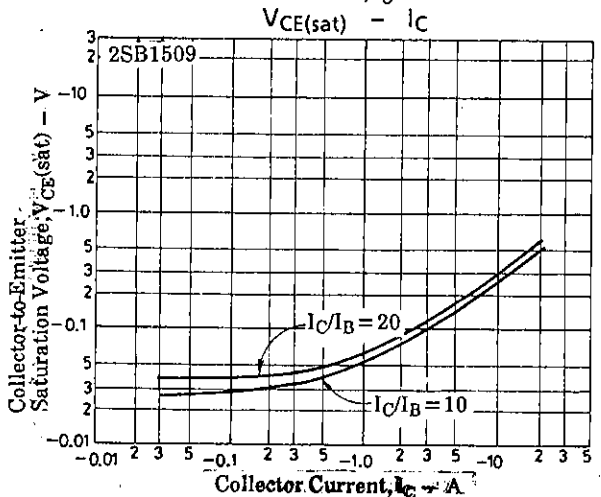
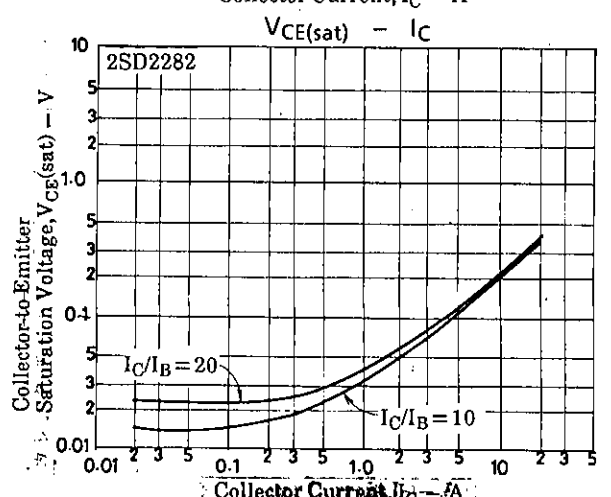
(unit: mm)

**Switching Time Test Circuit**

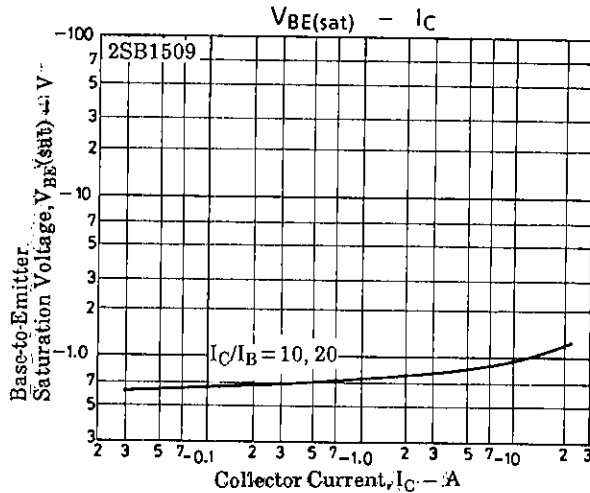
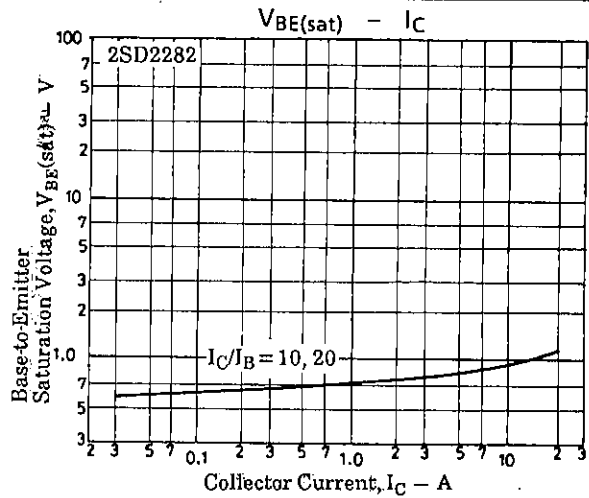
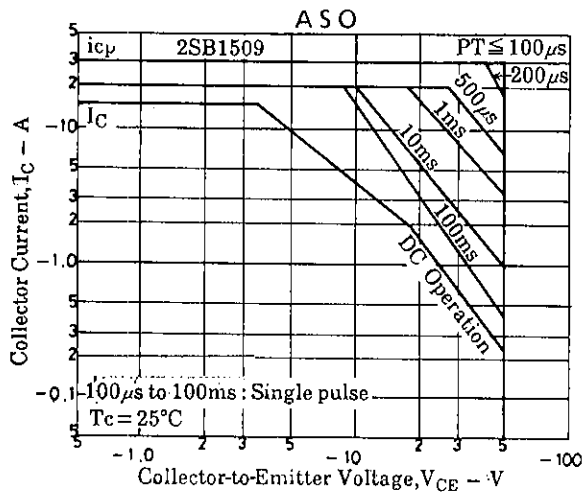
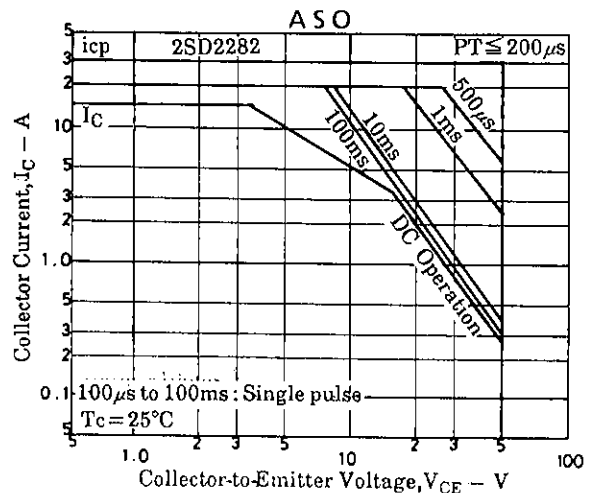
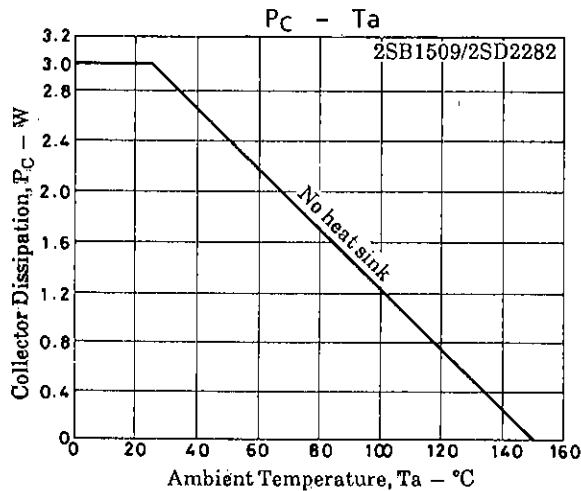
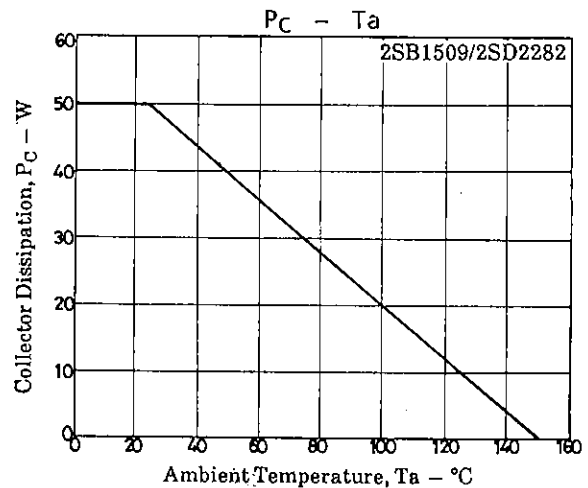
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