

<b>SANYO</b>	No.3715	<b>2SB1509/2SD2282</b>
	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  $T_a = 25^\circ C$**

			unit
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	$^\circ C$

$T_c = 25^\circ C$

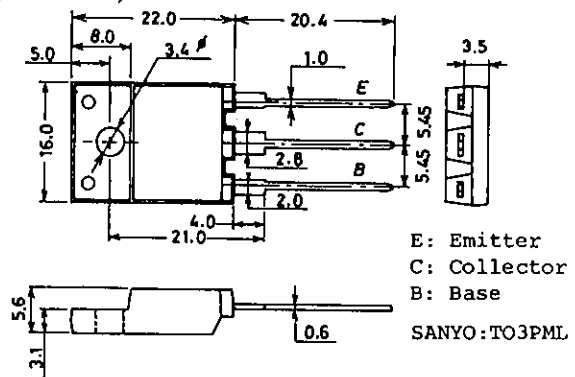
**Electrical Characteristics at  $T_a = 25^\circ C$**

			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		$\mu s$
Storage Time	$t_{stg}$	"		(0.5)1.0		$\mu s$
Fall Time	$t_f$	"		0.1		$\mu s$

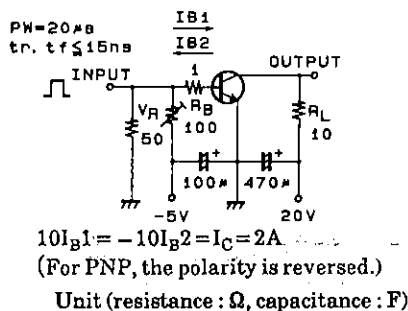
\* : The 2SB1509/2SD2282 are classified by 1A  $h_{FE}$  as follows.

70	Q	140	100	R	200	140	S	280
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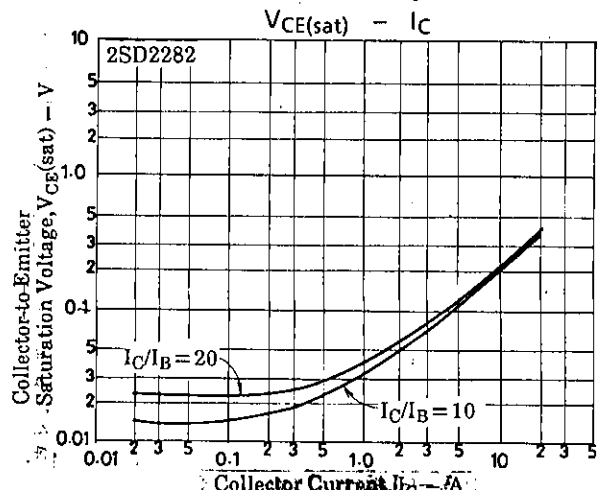
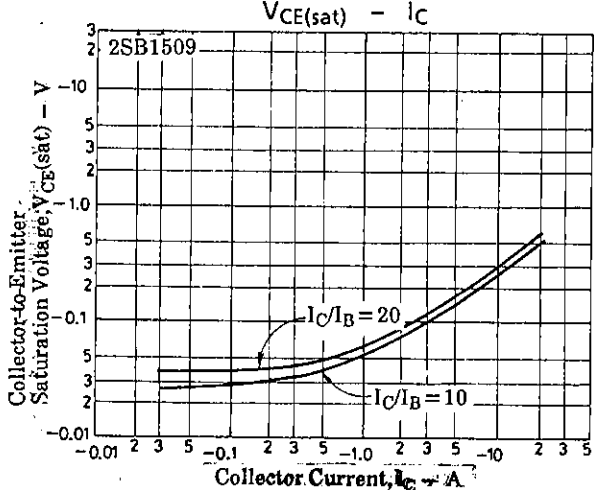
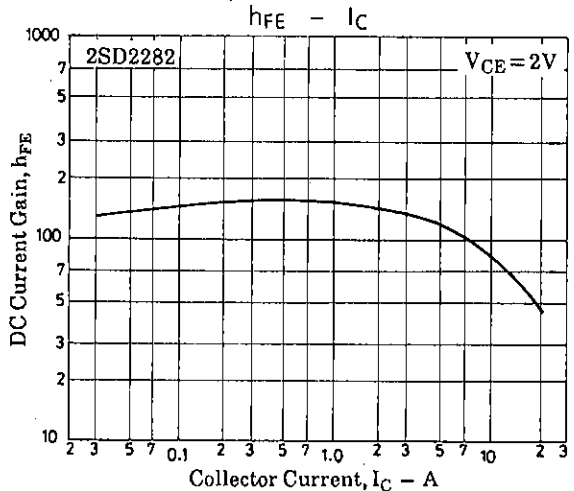
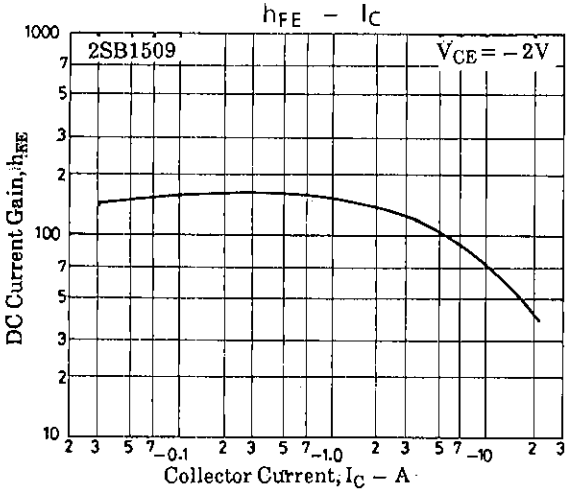
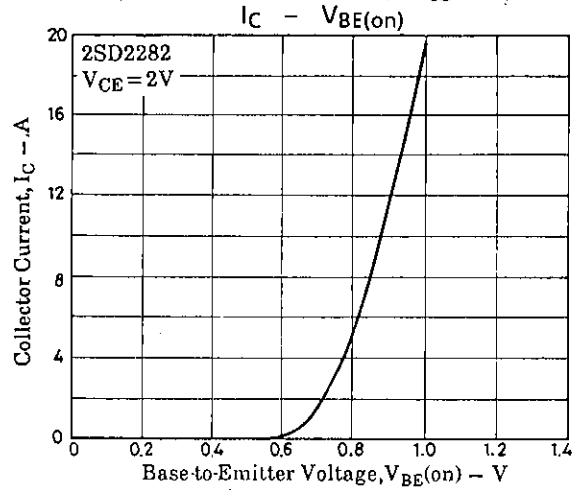
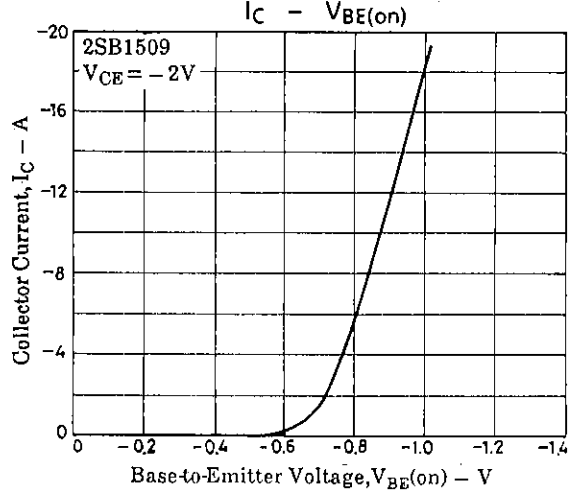
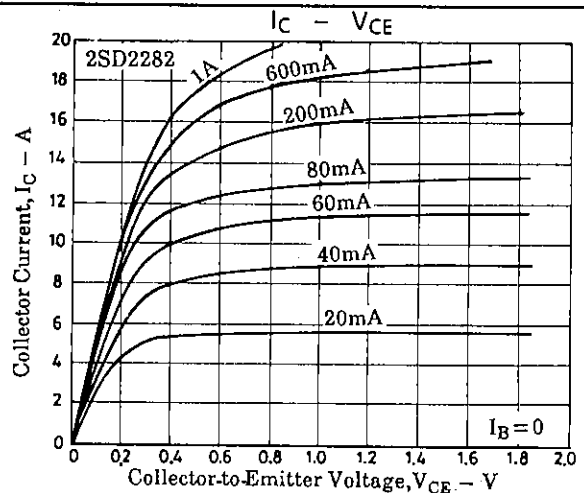
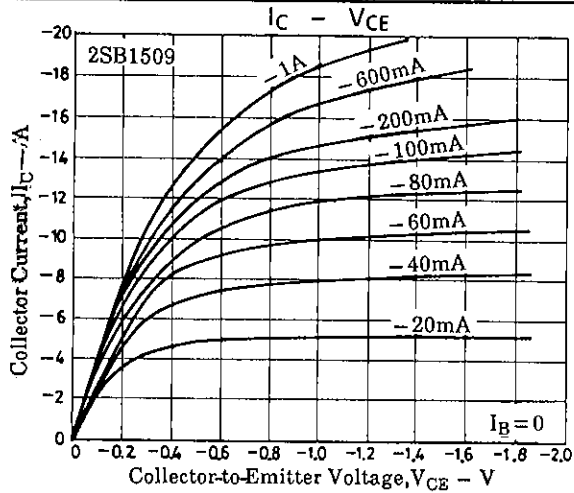
**Package Dimensions 2039A**  
(unit: mm)



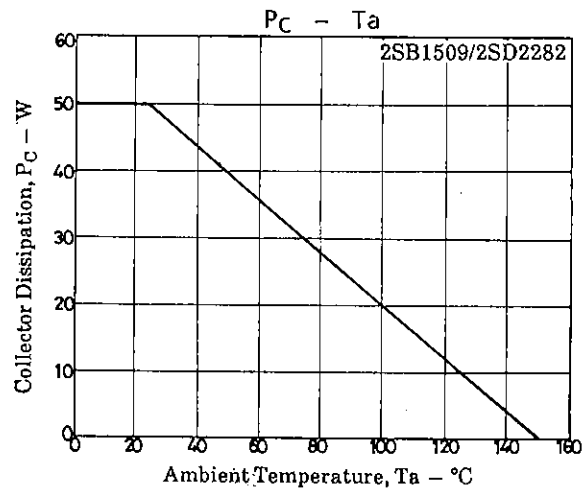
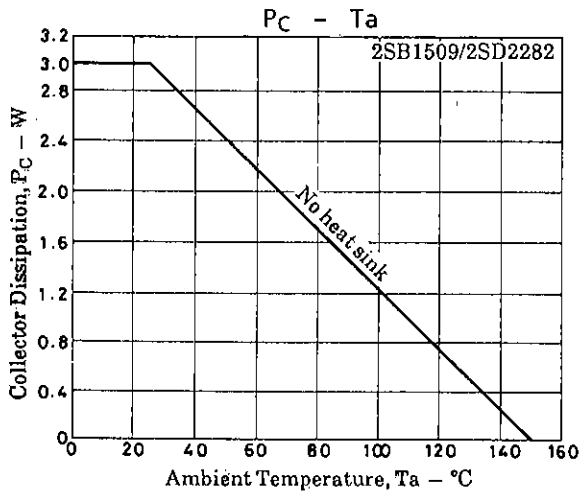
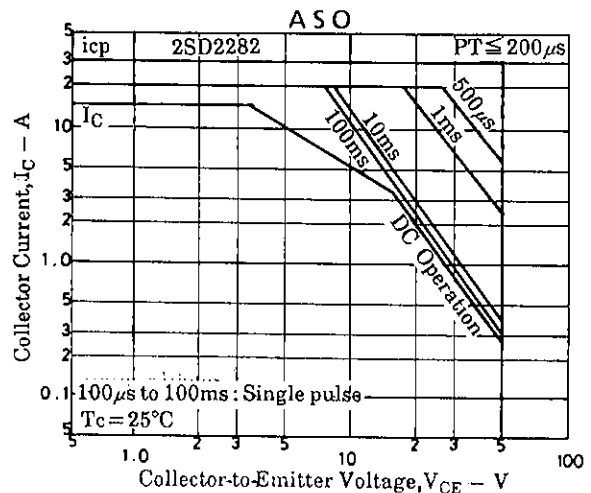
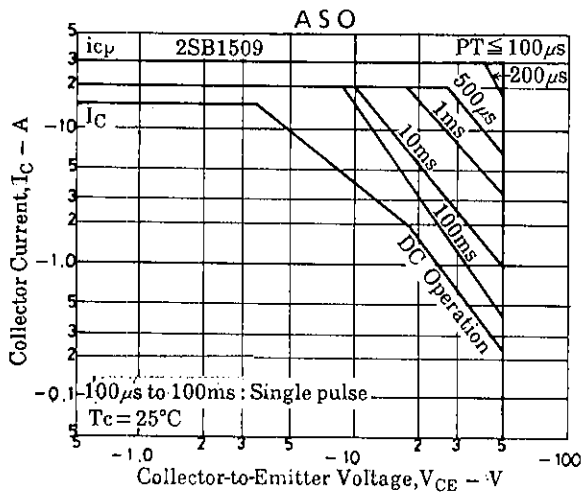
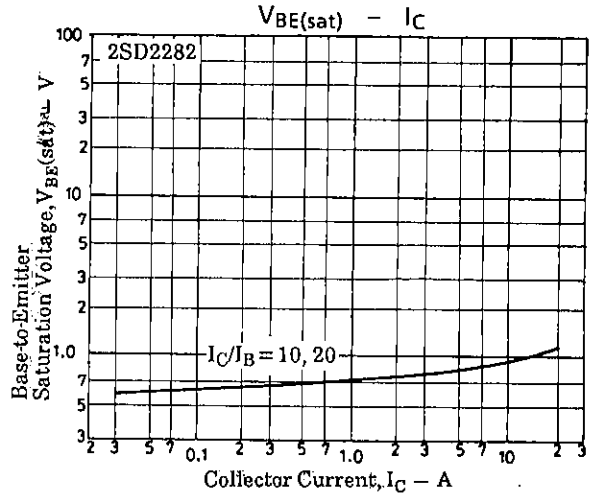
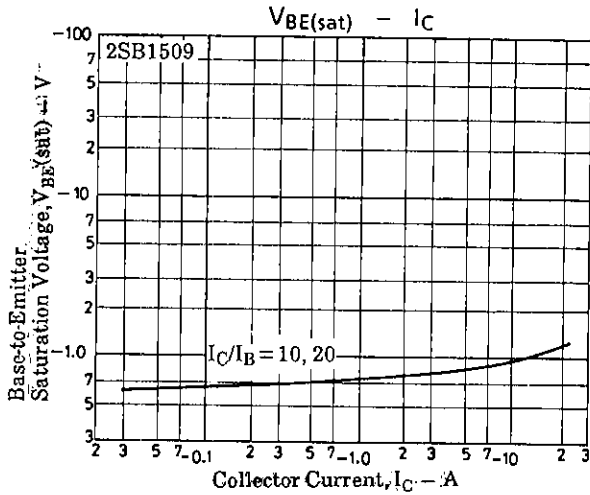
**Switching Time Test Circuit**



2SB1509/2SD2282



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