

<b>SANYO</b>	No.3716	<b>2SB1511/2SD2285</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 :  $V_{CE(sat)} = -0.5V(\text{PNP}), 0.4V(\text{NPN})$  max.
- Large current capacity.
- Micaless package facilitating easy mounting.

( ) : 2SB1511

**Absolute Maximum Ratings at  $T_a = 25^\circ\text{C}$**

			unit
Collector-to-Base Voltage	$V_{CBO}$	(-)	60 V
Collector-to-Emitter Voltage	$V_{CEO}$	(-)	30 V
Emitter-to-Base Voltage	$V_{EBO}$	(-)	6 V
Collector Current	$I_C$	(-)	20 A
Peak Collector Current	$i_{cp}$	(-)	40 A
Collector Dissipation	$P_C$		3.0 W
		$T_c = 25^\circ\text{C}$	40 W
Junction Temperature	$T_j$		150 $^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150 $^\circ\text{C}$

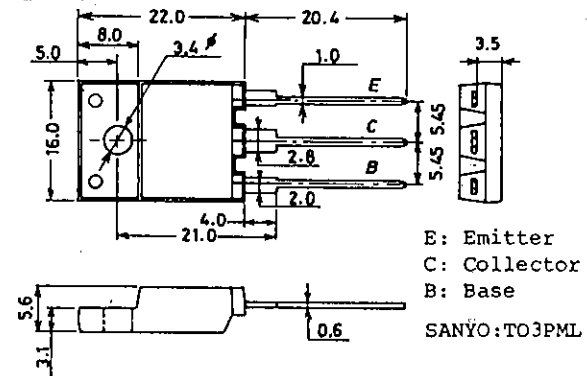
**Electrical Characteristics at  $T_a = 25^\circ\text{C}$**

			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*	
	$h_{FE(2)}$	$V_{CE} = (-)2V, I_C = (-)10A$	30			
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)8A, I_B = (-)0.4A$		(-)	0.25	0.5 V
					0.2	0.4
Gain-Bandwidth Product	$f_T$	$V_{CE} = (-)5V, I_C = (-)1A$		120		MHz
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)1mA, I_E = 0$	(-)	60		V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-)	30		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.		300		ns
Storage Time	$t_{stg}$	"/		(300)600		ns
Fall Time	$t_f$	"/		20		ns

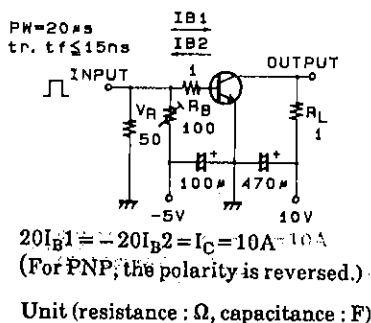
\* : The 2SB1511/2SD2285 are classified by 1A  $h_{FE}$  as follows.

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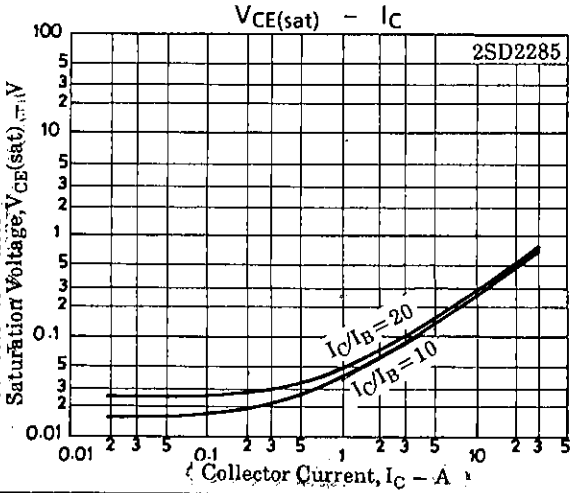
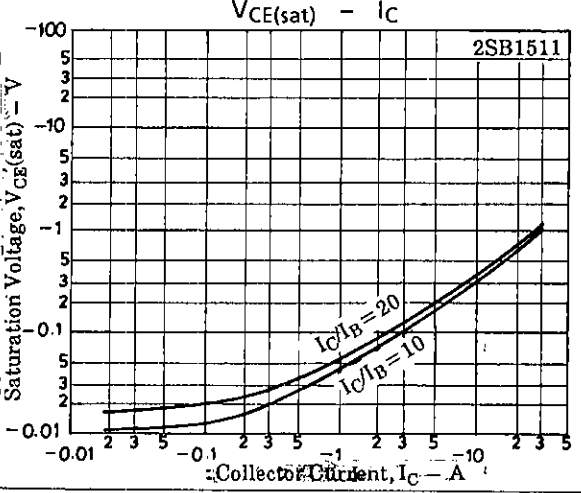
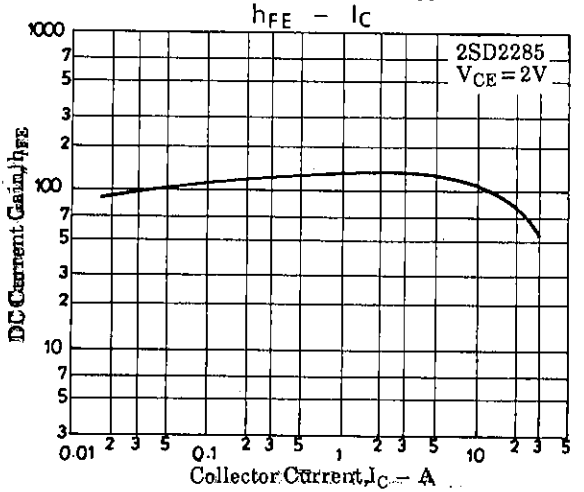
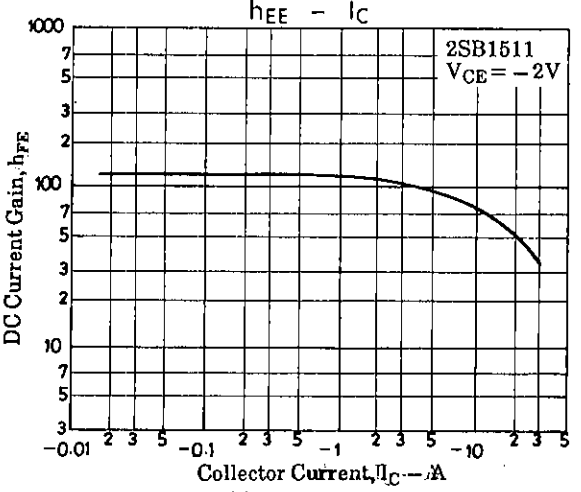
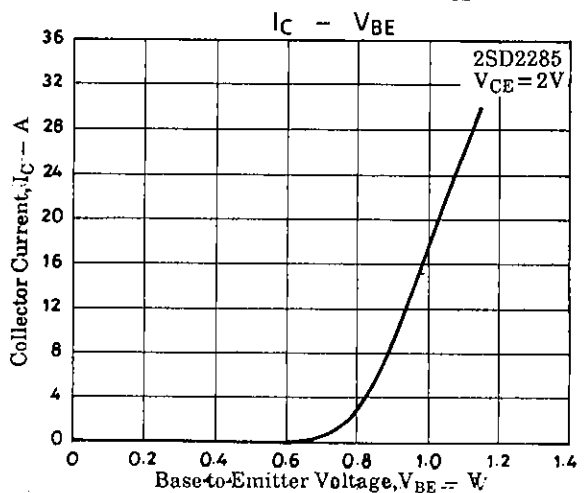
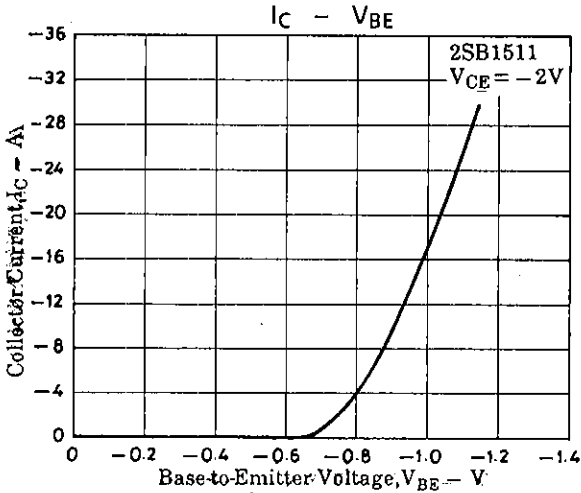
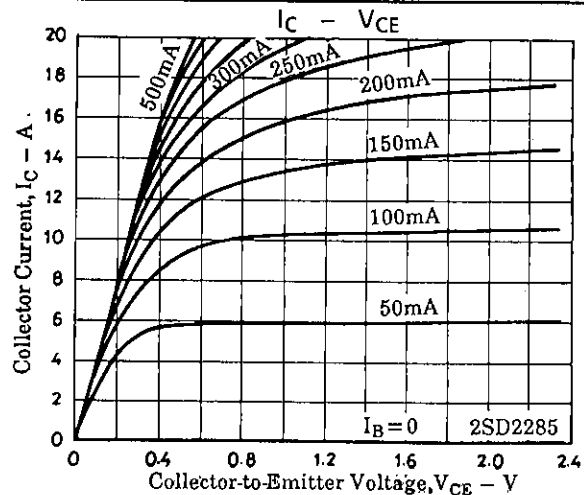
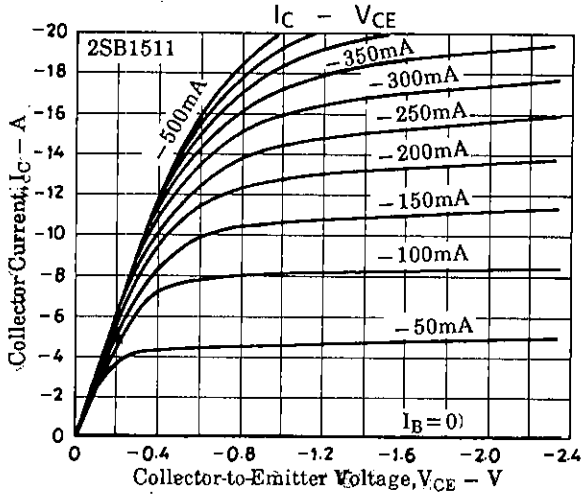
**Package Dimensions 2039A**  
(unit : mm)



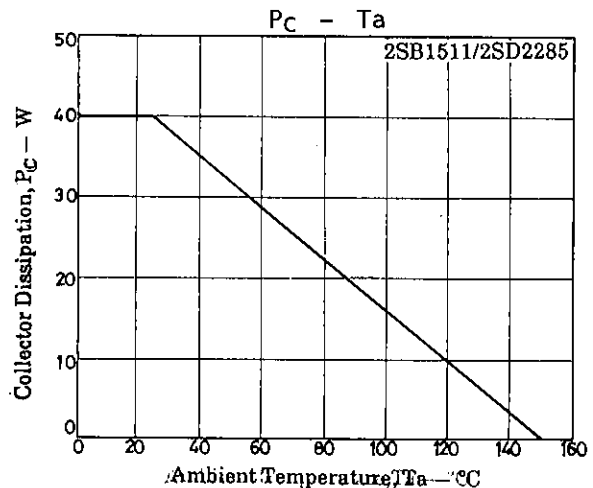
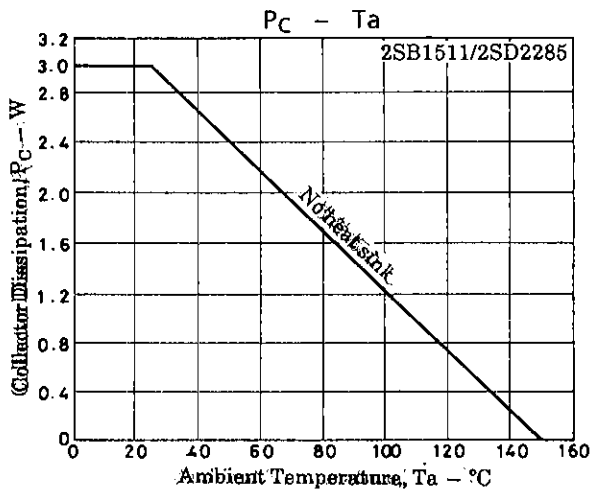
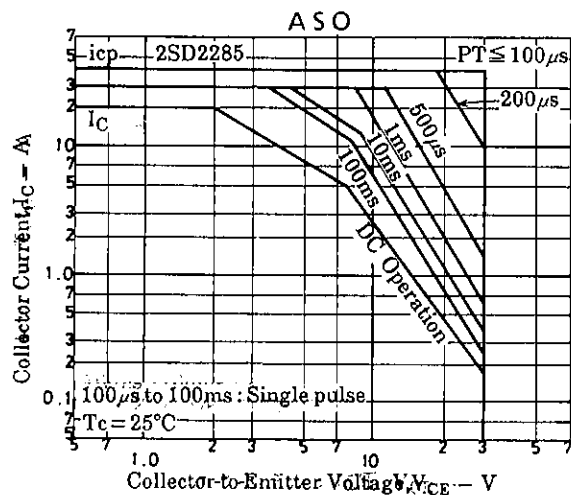
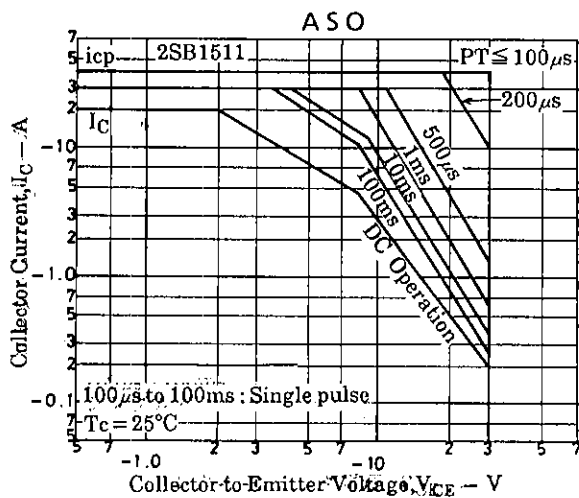
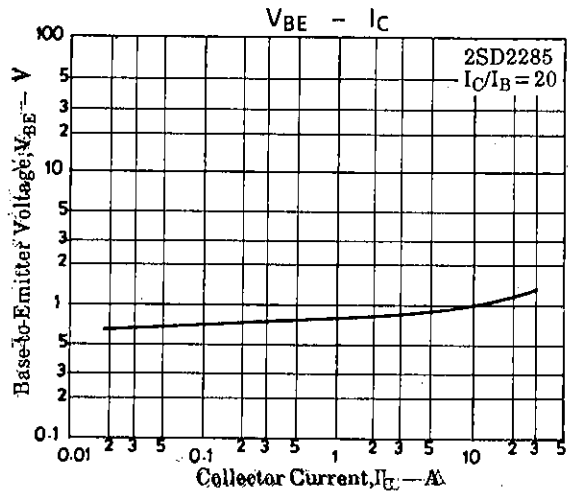
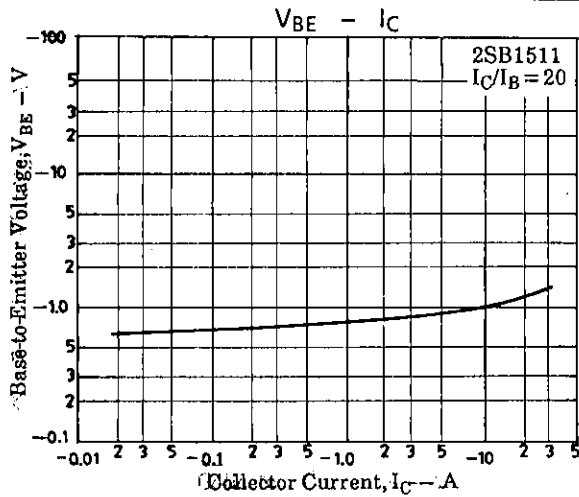
**Switching Time Test Circuit**



2SB1511/2SD2285



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