



No.2262B

# 2SA1552/2SC4027

PNP/NPN Epitaxial Planar Silicon Transistors

High-Voltage Switching Applications

### Applications

- Converters, inverters, color TV audio output

### Features

- Adoption of FBET, MBET processes
- High voltage and large current capacity
- Fast switching time
- Small and slim package permitting 2SA1552/2SC4027-applied sets to be made more compact

( ): 2SA1552

### Absolute Maximum Ratings at Ta=25°C

			unit
Collector to Base Voltage	$V_{CB0}$	(-)180	V
Collector to Emitter Voltage	$V_{CEO}$	(-)160	V
Emitter to Base Voltage	$V_{EBO}$	(-)6	V
Collector Current	$I_C$	(-)1.5	A
Collector Current(Pulse)	$I_{CP}$	(-)2.5	A
Collector Dissipation	$P_C$	1	W
	$P_C$	15	W
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{stg}$	-55 to +150	°C

$T_c=25^\circ\text{C}$

### Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	$I_{CB0}$	$V_{CB}=(-)120\text{V}, I_E=0$			(-)1.0	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)4\text{V}, I_C=0$			(-)1.0	$\mu\text{A}$
DC Current Gain	$h_{FE}(1)$	$V_{CE}=(-)5\text{V}, I_C=(-)100\text{mA}$	100*		400*	
	$h_{FE}(2)$	$V_{CE}=(-)5\text{V}, I_C=(-)10\text{mA}$	80			
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)10\text{V}, I_C=(-)50\text{mA}$		120		MHz
Output Capacitance	$c_{ob}$	$V_{CB}=(-)10\text{V}, f=1\text{MHz}$		(22)12		pF

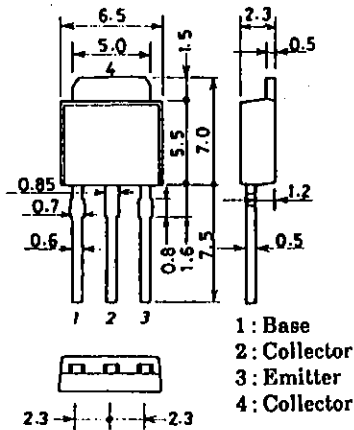
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\*: The 2SA1552/2SC4027 are classified by 100mA  $h_{FE}$  as follows:

100 R	200	140 S	280	200 T	400
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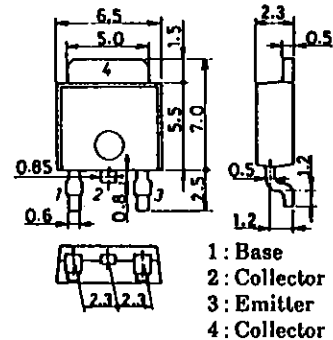
### Package Dimensions 2045B

(unit: mm)



### Package Dimensions 2044B

(unit: mm)



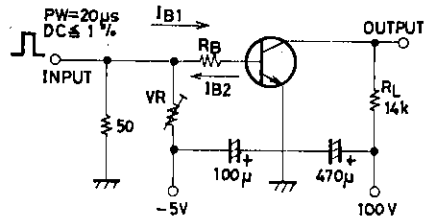
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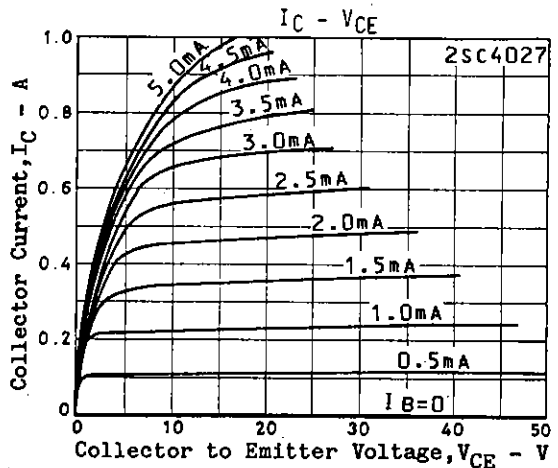
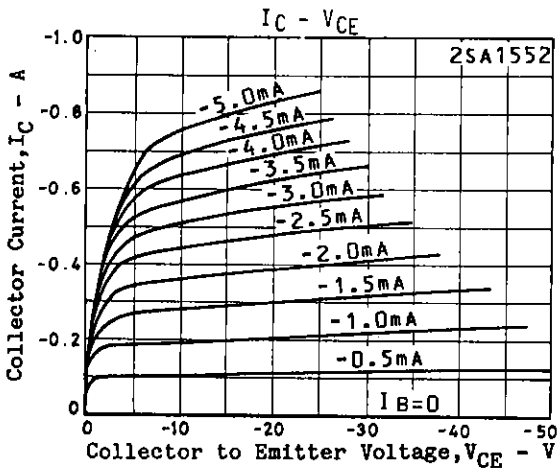
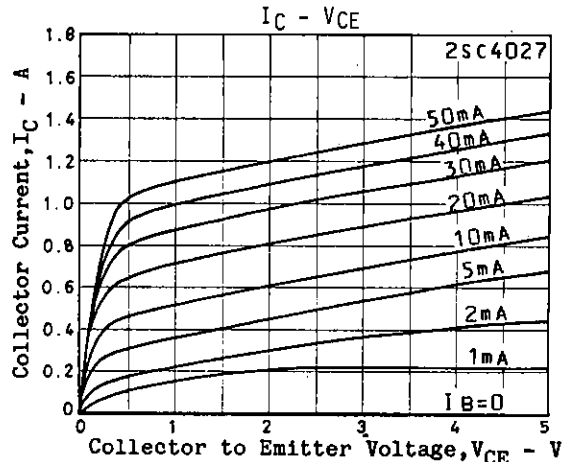
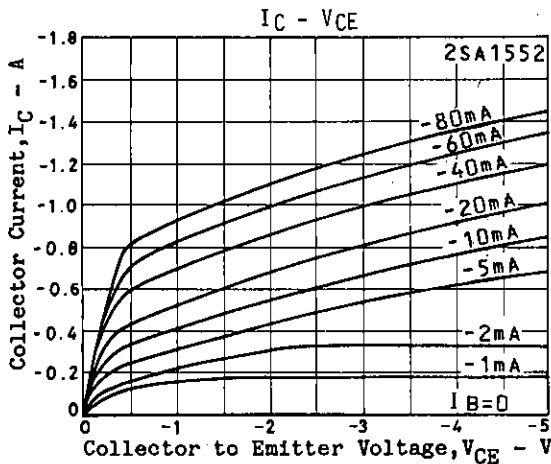
			min	typ	max	unit
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)500mA, I_B=(-)50mA$	(-0.2)	(-0.5)		V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)500mA, I_B=(-)50mA$	(-)0.85	(-)1.2		V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-)180			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)160			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	(-)6			V
Turn-on Time	$t_{on}$	See specified Test Circuit.		60		ns
Storage Time	$t_{stg}$	"	(0.7)	1.2		$\mu s$
Fall Time	$t_f$	"	(50)	80		ns

Switching Time Test Circuit

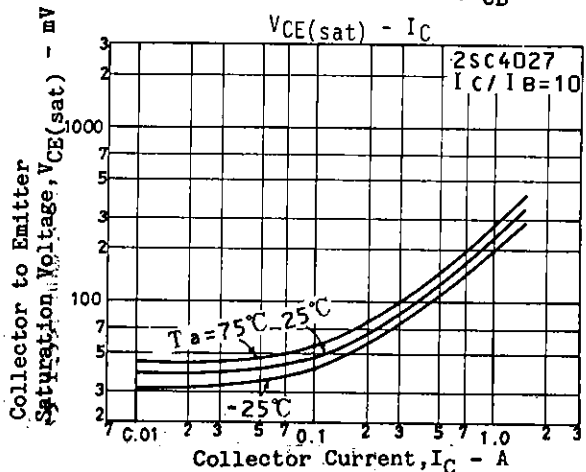
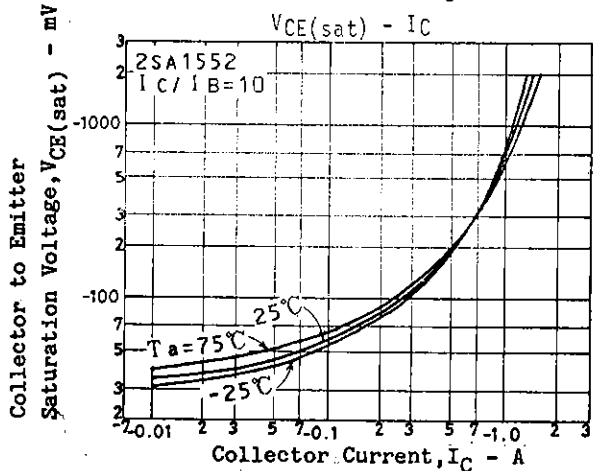
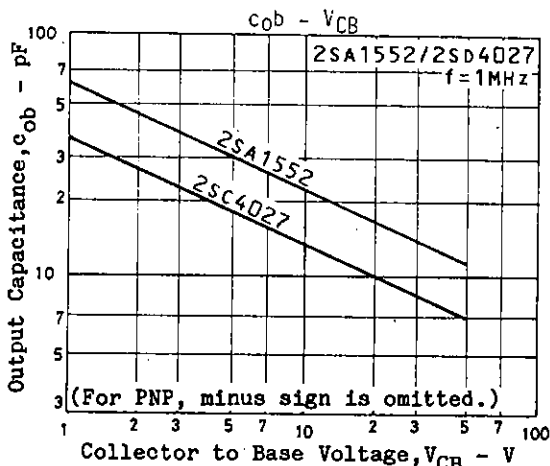
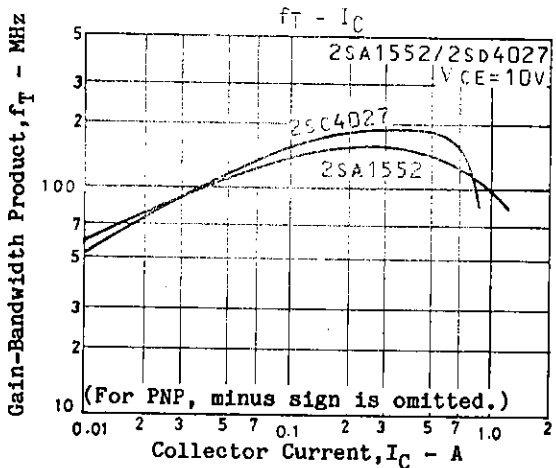
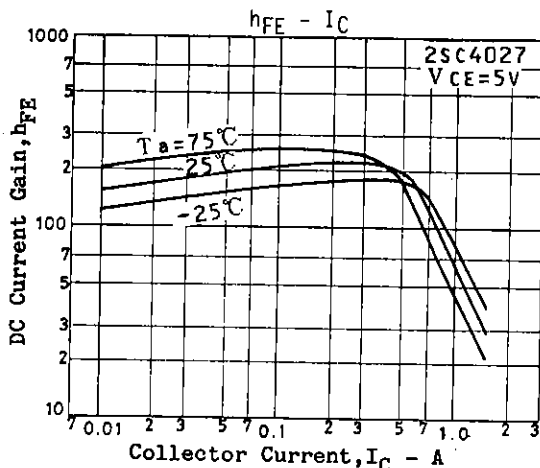
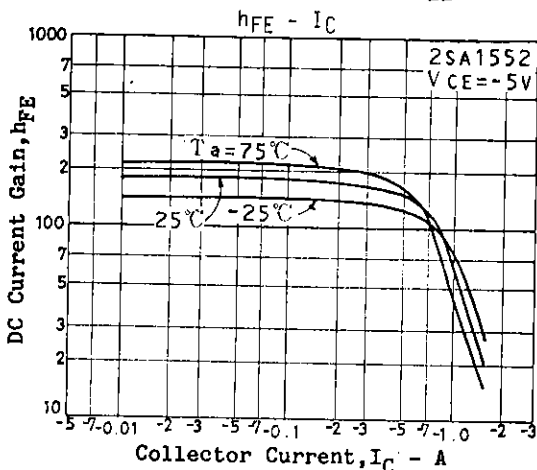
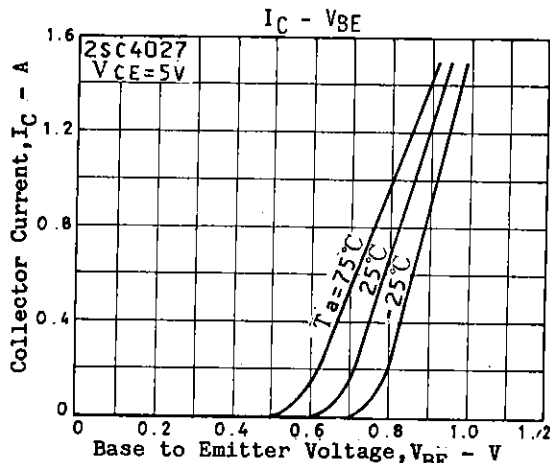
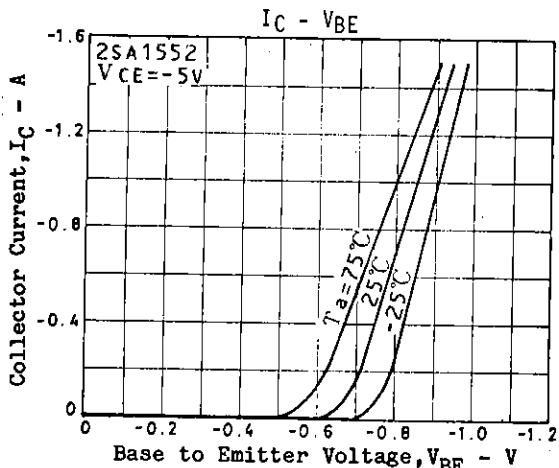


$10|I_{B1}| = -10|I_{B2}| = I_C = 0.7A$   
For PNP, the polarity is reversed.

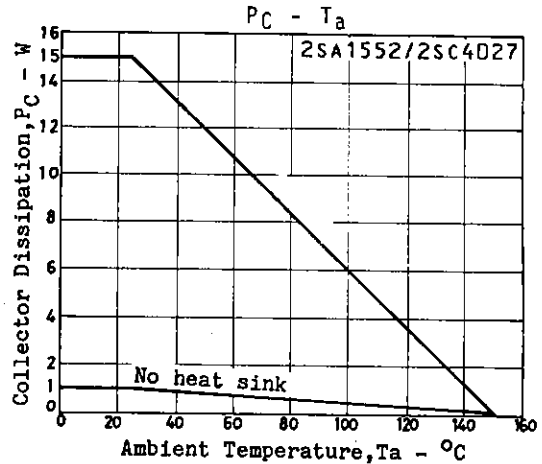
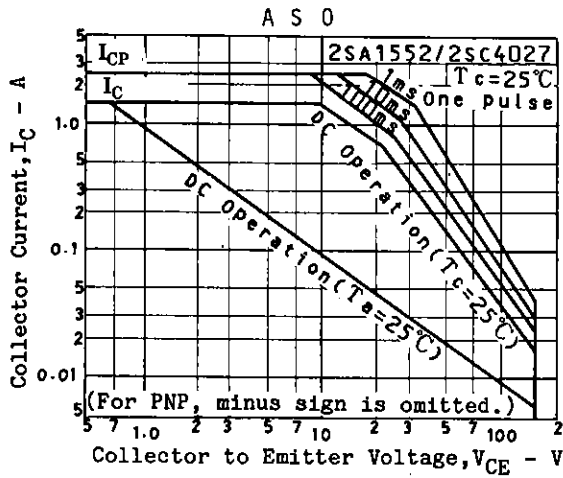
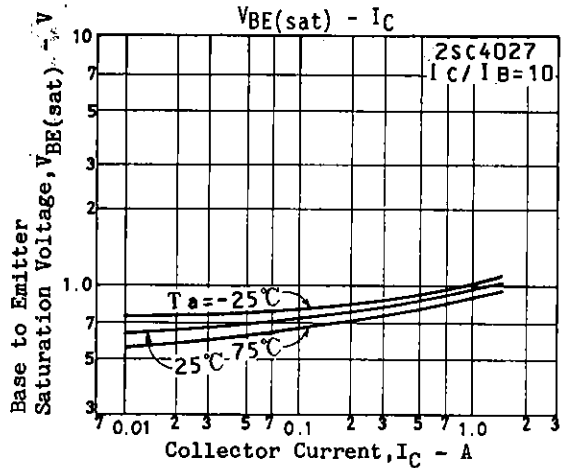
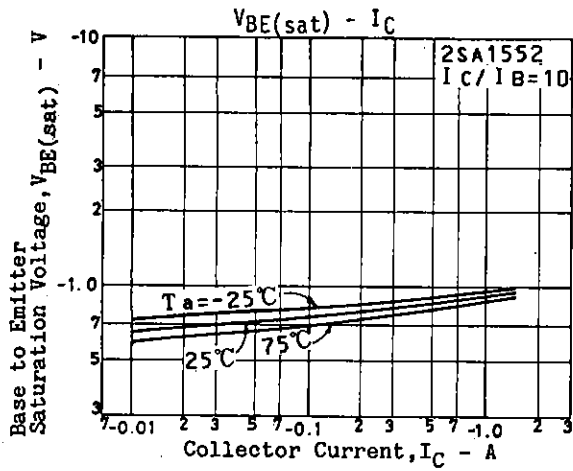
Unit (Resistance :  $\Omega$ , Capacitance : F)



2SA1552/2SC4027



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