

**2SA1552/2SC4027****High-Voltage Switching Applications****Applications**

- Converters, inverters, color TV audio output.

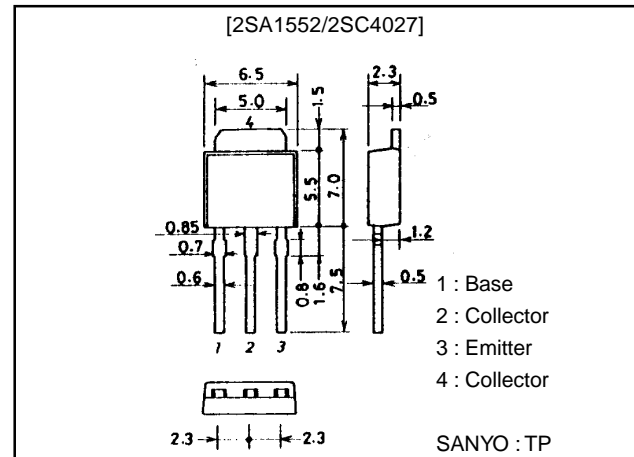
**Features**

- Adoption of FBET, MBIT processes.
- High voltage and large current capacity.
- Fast switching time.
- Small and slim package permitting 2SA1522/2SC4027-applied sets to be made more compact.

**Package Dimensions**

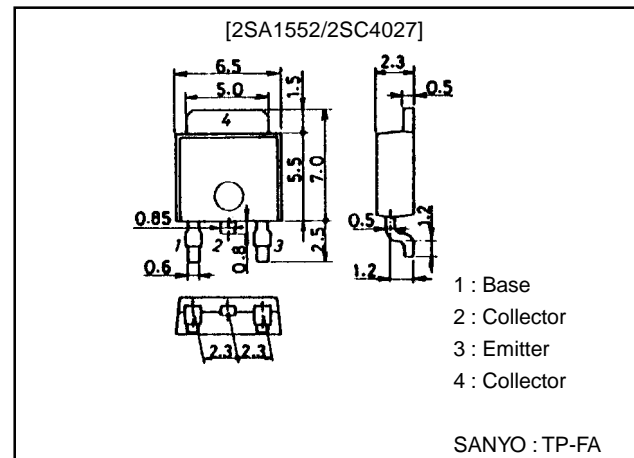
unit:mm

2045B



unit:mm

2044B



() : 2SA1552

**Specifications****Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	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
		$T_c=25^\circ\text{C}$	15	W
Junction Temperature	$T_J$		150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +150	$^\circ\text{C}$

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

100 R	200	140 S	280	200 T	400
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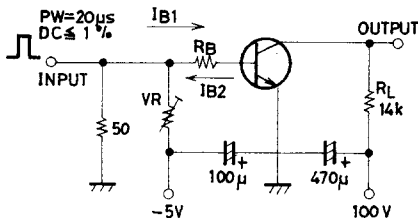
72098HA (KT)/8109MO/5137TA, TS No.2262-1/4

# 2SA1552/2SC4027

## Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CB0}$	$V_{CB} = (-)120V, I_E = 0$			(-1.0)	$\mu A$
Emitter Cutoff Current	$I_{EB0}$	$V_{EB} = (-)4V, I_C = 0$			(-1.0)	$\mu A$
DC Current Gain	$h_{FE1}$	$V_{CE} = (-)5V, I_C = (-)100mA$	100		400	
	$h_{FE2}$	$V_{CE} = (-)5V, I_C = (-)10mA$	80			
Gain-Bandwidth Product	$f_T$	$V_{CE} = (-)10V, I_C = (-)50mA$		120		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = (-)10V, f = 1MHz$		12		pF
				(22)		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)500mA, I_B = (-)50mA$		(-0.2)	(-0.5)	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)500mA, I_B = (-)50mA$		0.13	0.45	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10A, I_E = 0$	(-180)			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1mA, R_{BE} = \infty$	(-160)			V
Emitter-to-Base 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		$\mu s$
Storage Time	$t_{stg}$	See specified Test Circuit.		(0.7)		$\mu s$
				1.2		
Fall Time	$t_f$	See specified Test Circuit.		(50)		$\mu s$
				80		

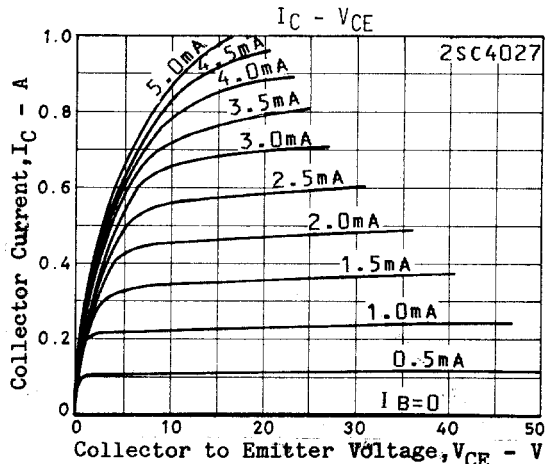
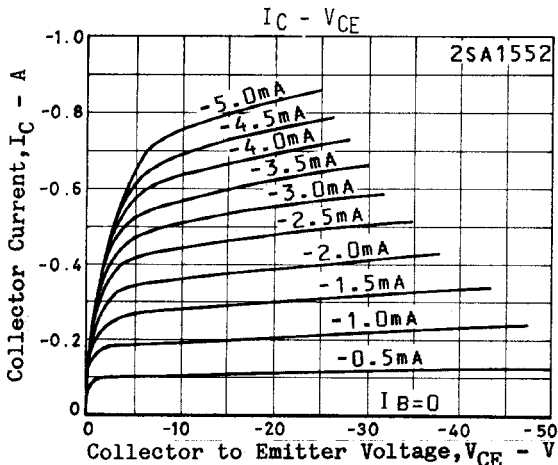
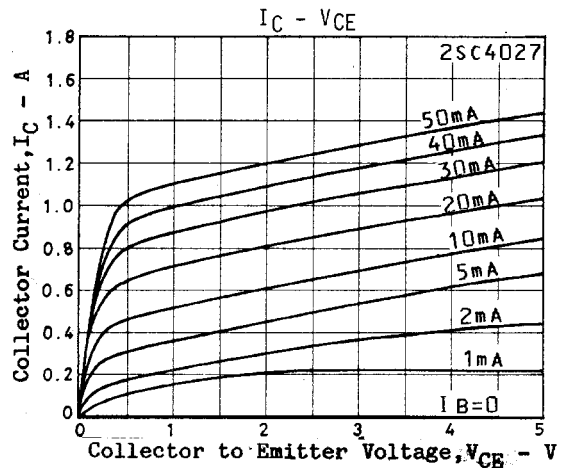
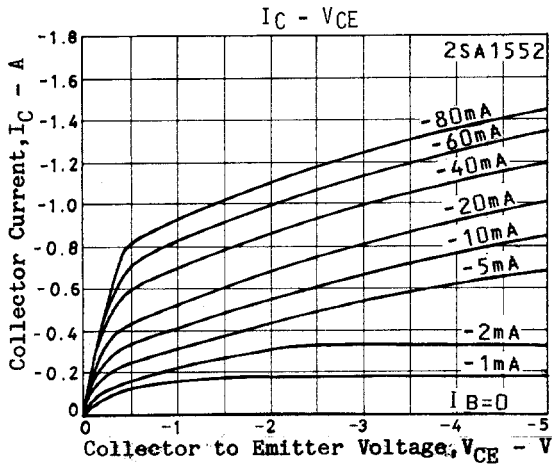
## Switching Time Test Circuit



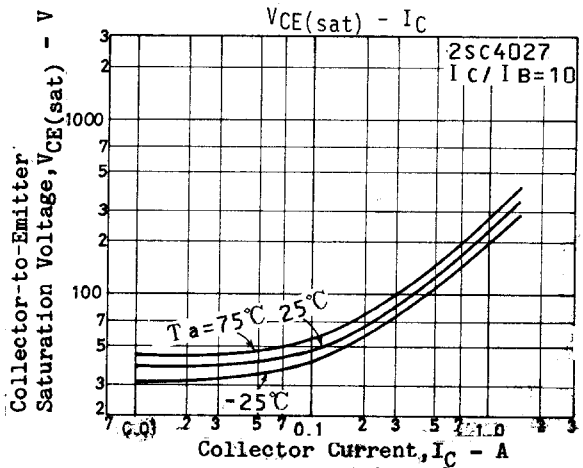
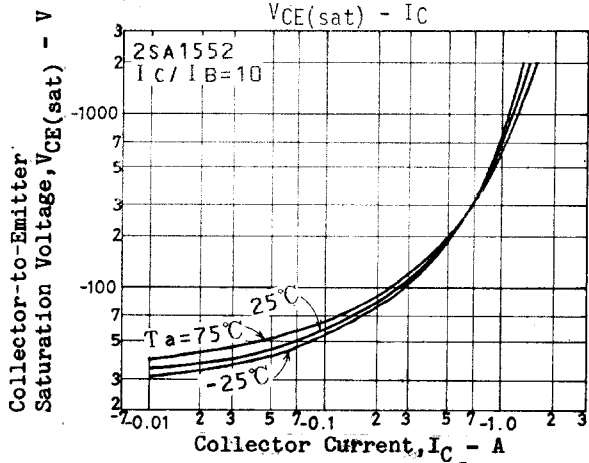
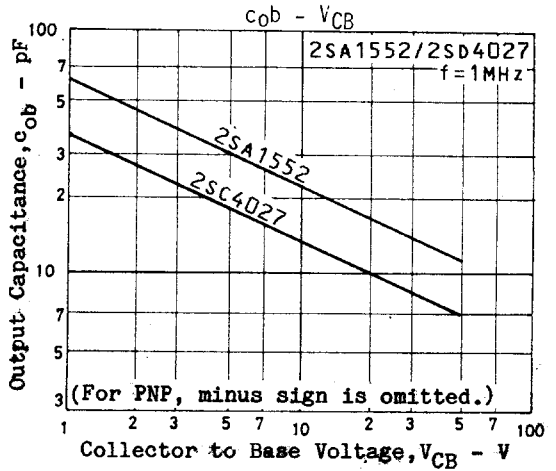
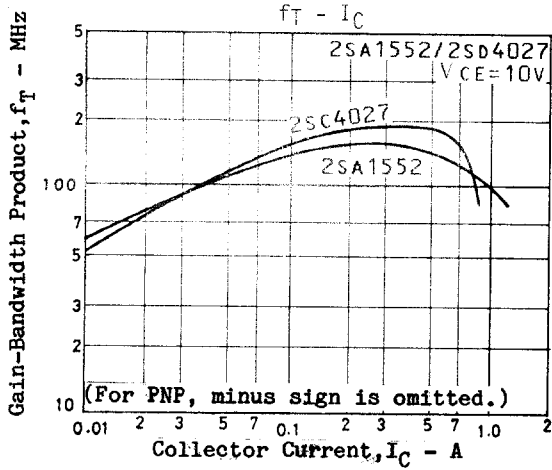
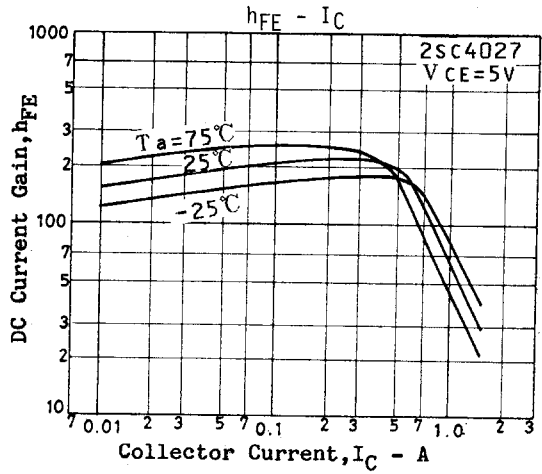
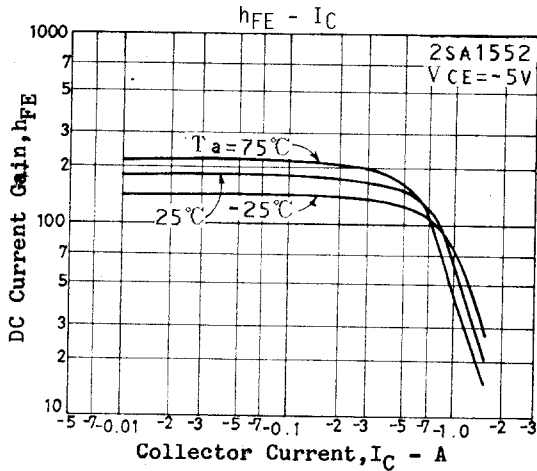
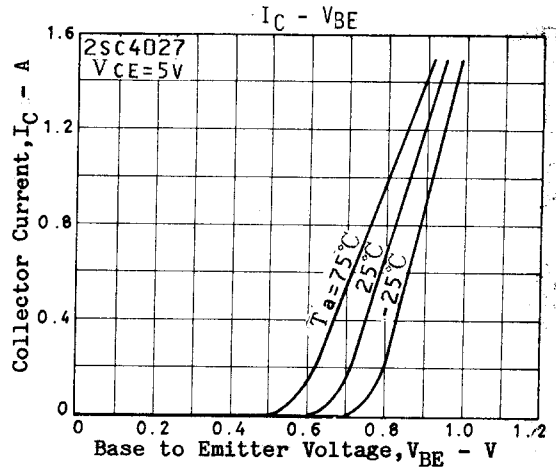
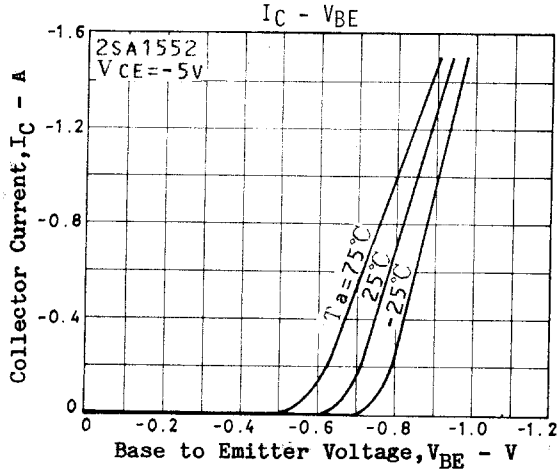
$$10I_{B1} = -10I_{B2} = I_C = 0.7A$$

For PNP, the polarity is reversed.

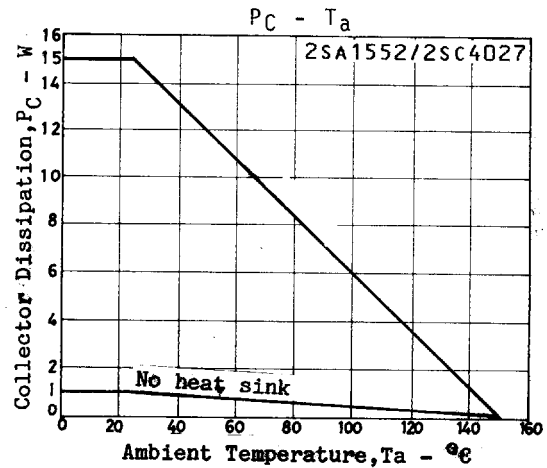
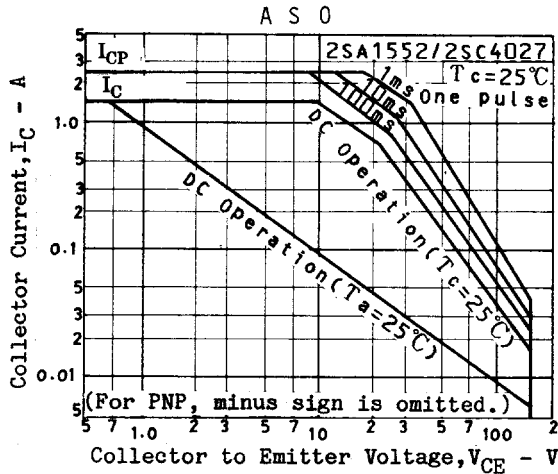
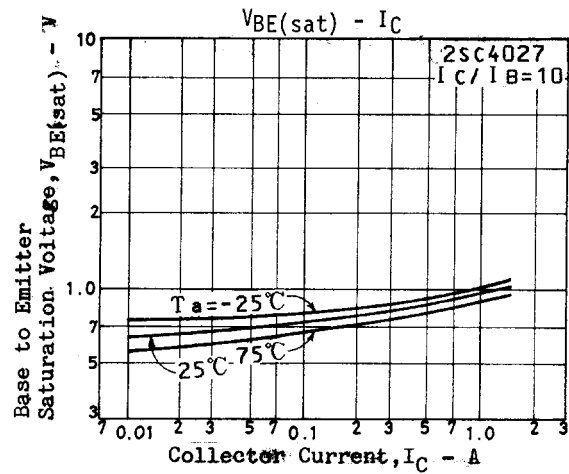
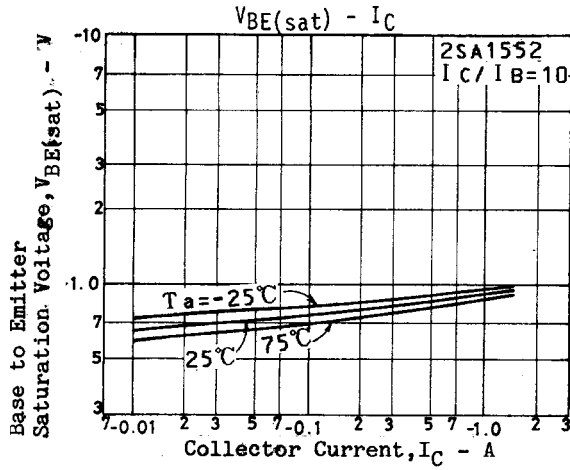
Unit (resistance :  $\Omega$ , capacitance : F)



# 2SA1552/2SC4027



## 2SA1552/2SC4027



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