



## 2SA1552/2SC4027

### High-Voltage Switching Applications

#### Applications

- Converters, inverters, color TV audio output.

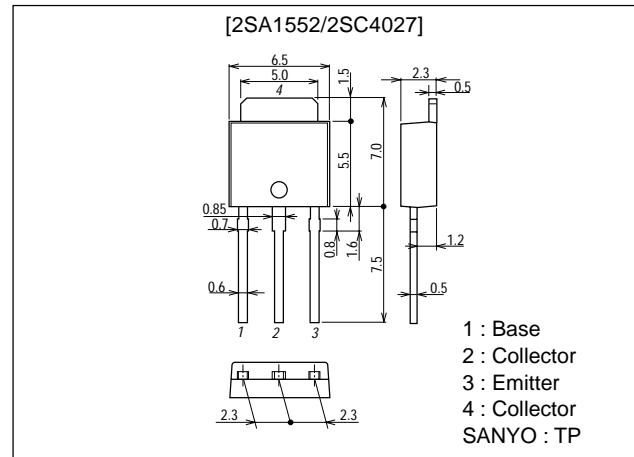
#### Features

- 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

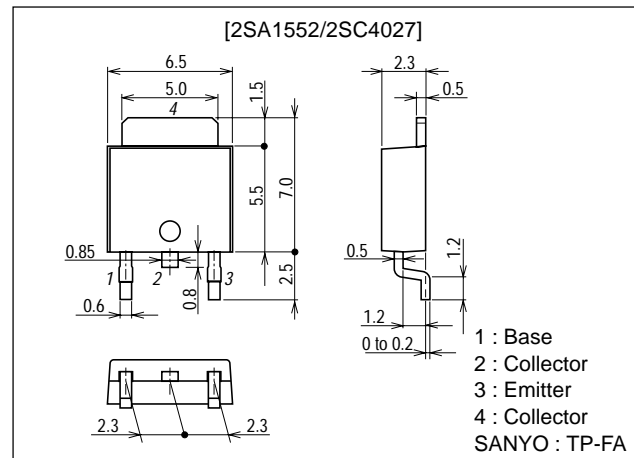
unit:mm

2045B



unit:mm

2044B



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**SANYO Electric Co.,Ltd. Semiconductor Company**

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# 2SA1552/2SC4027

( ) : 2SA1552

## Specifications

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

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	$^\circ\text{C}$

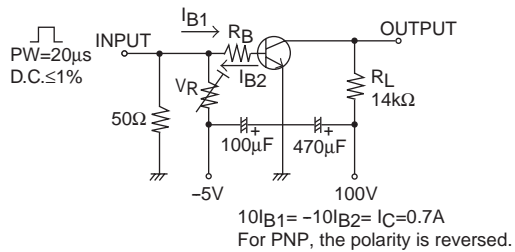
**Electrical Characteristics** at  $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
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	$h_{FE1}$	$V_{CE} = (-)5\text{V}, I_C = (-)100\text{mA}$	100		400	
	$h_{FE2}$	$V_{CE} = (-)5\text{V}, I_C = (-)10\text{mA}$	80			
Gain-Bandwidth Product	$f_T$	$V_{CE} = (-)10\text{V}, I_C = (-)50\text{mA}$		120		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = (-)10\text{V}, f = 1\text{MHz}$		12		pF
				(22)		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)500\text{mA}, I_B = (-)50\text{mA}$		(-0.2)	(-0.5)	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)500\text{mA}, I_B = (-)50\text{mA}$		(-0.85)	(-1.2)	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\text{A}, I_E = 0$	(-)180			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, R_{BE} = \infty$	(-)160			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	(-)6			V
Turn-ON Time	$t_{on}$	See specified Test Circuit.		60		$\mu\text{s}$
Storage Time	$t_{stg}$	See specified Test Circuit.		(0.7)		$\mu\text{s}$
				1.2		
Fall Time	$t_f$	See specified Test Circuit.		(50)		$\mu\text{s}$
				80		

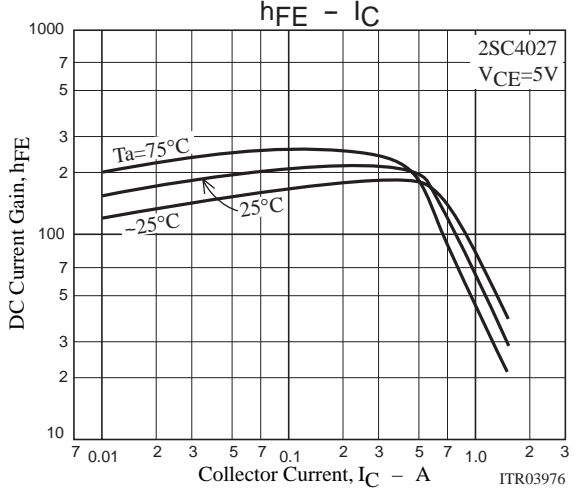
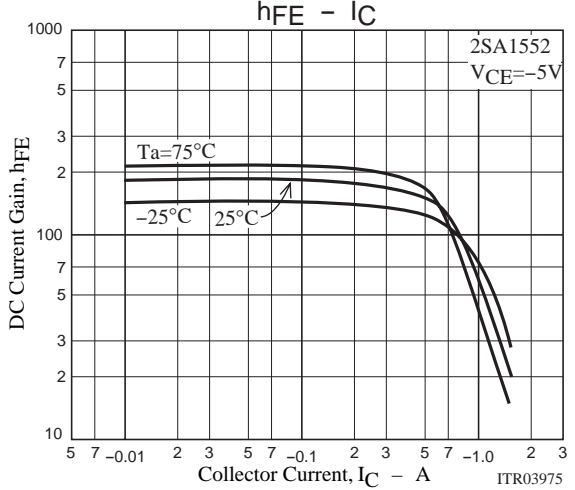
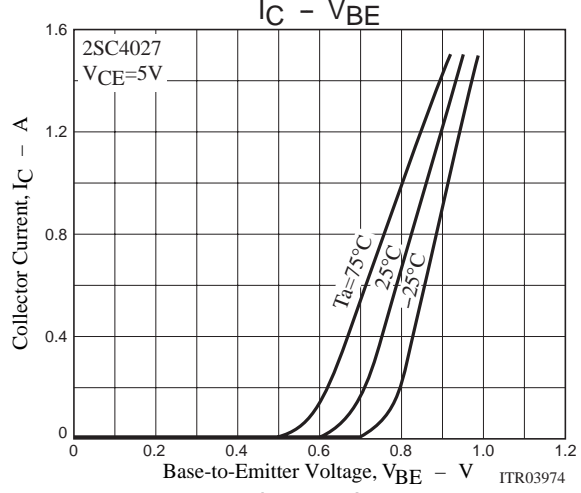
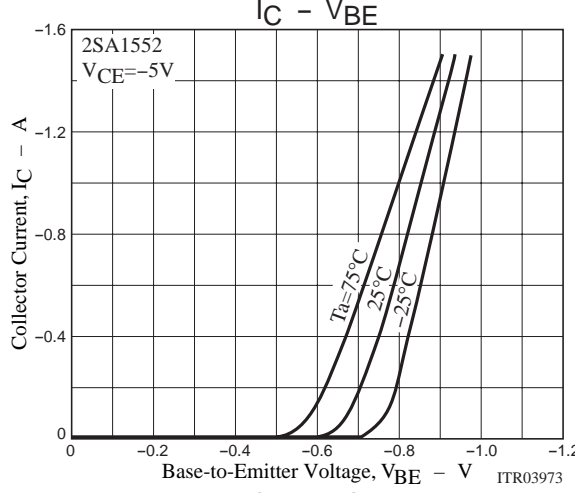
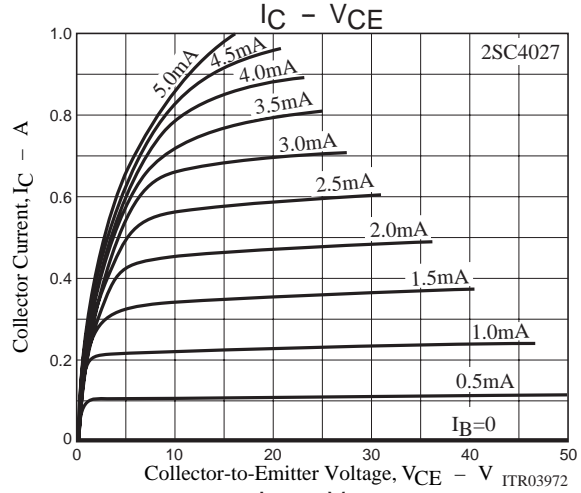
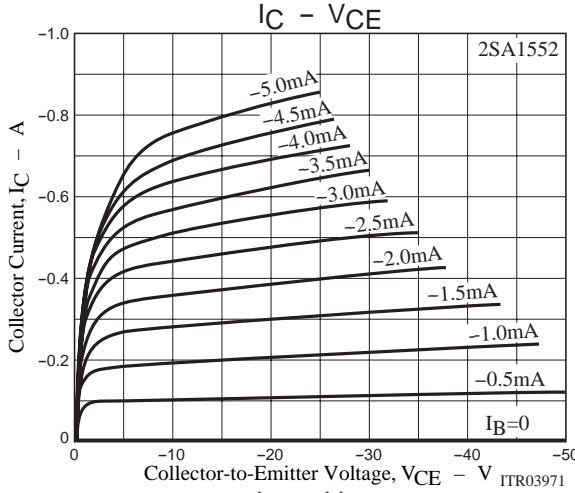
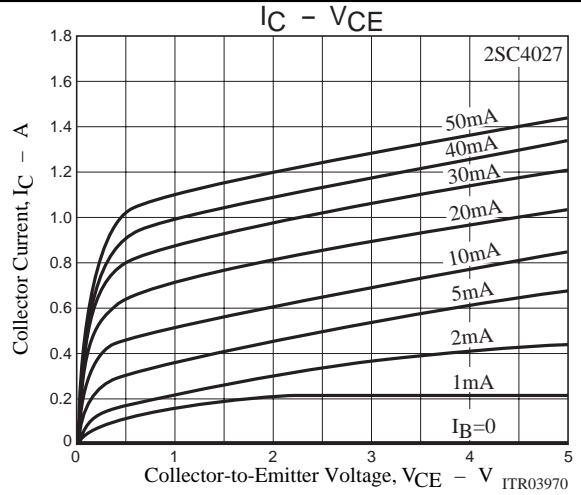
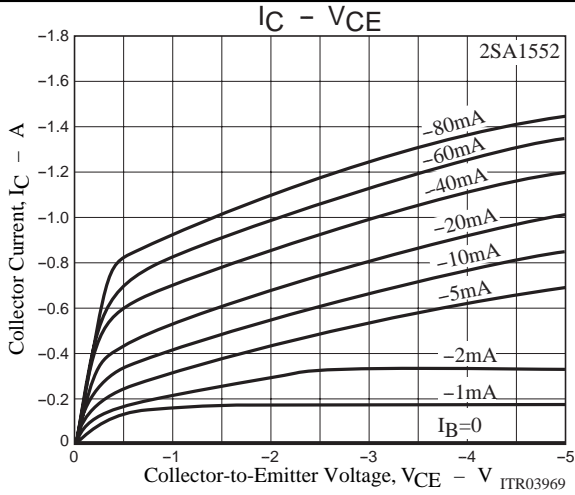
\* : The 2SA1552/2SC4027 are classified by 100mA  $h_{FE}$  as follows :

Rank	R	S	T
$h_{FE}$	100 to 200	140 to 280	200 to 400

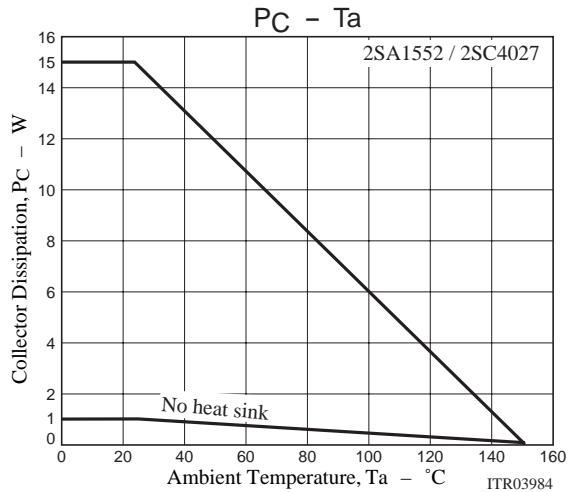
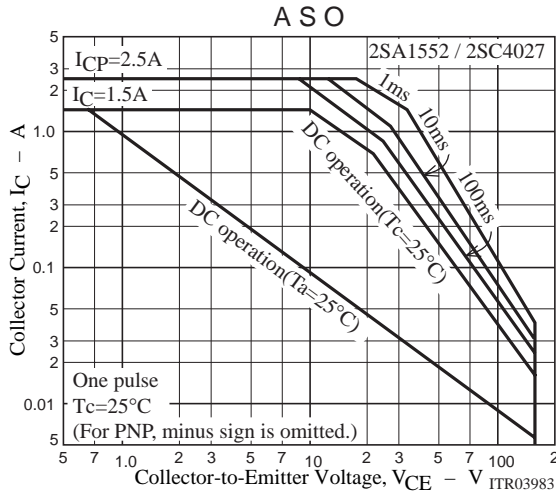
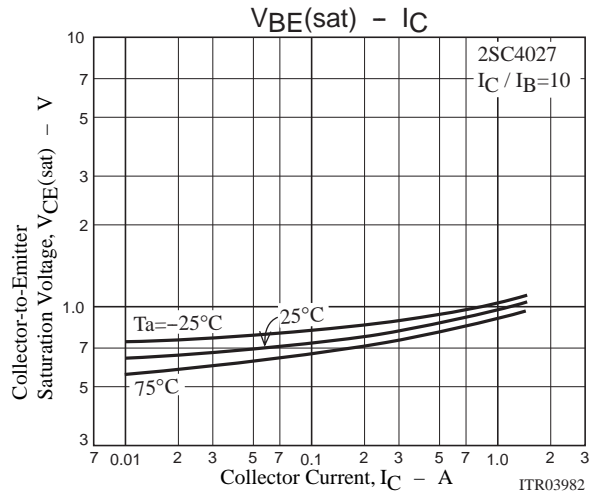
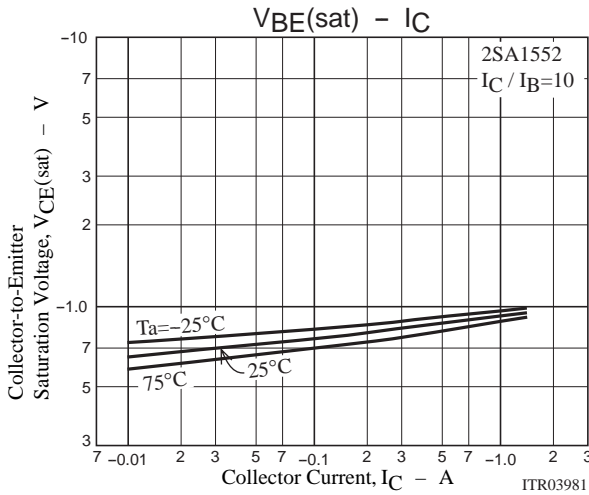
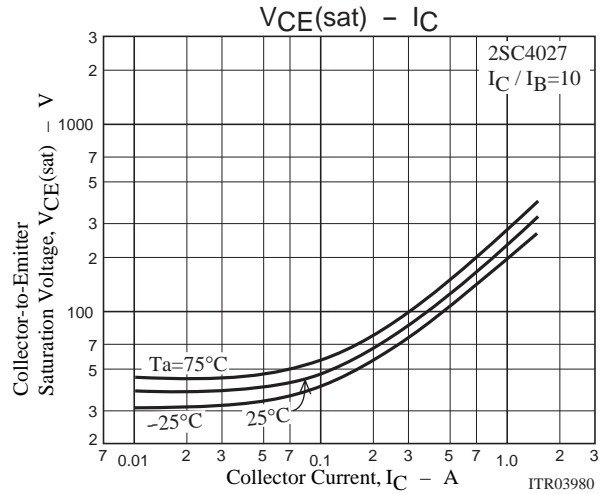
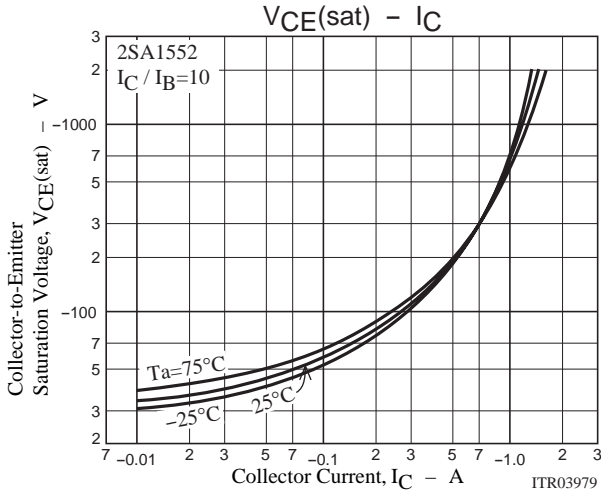
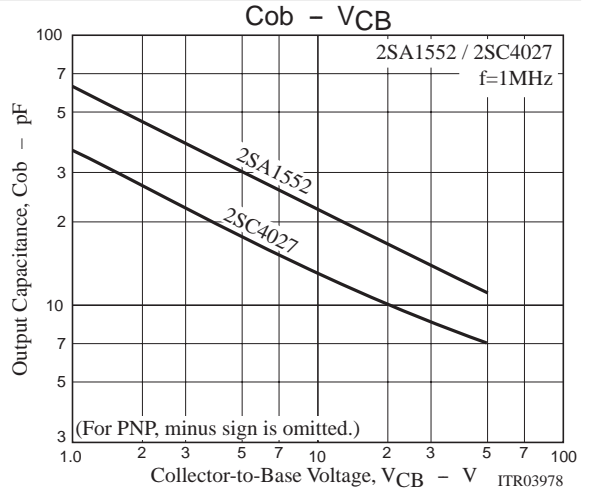
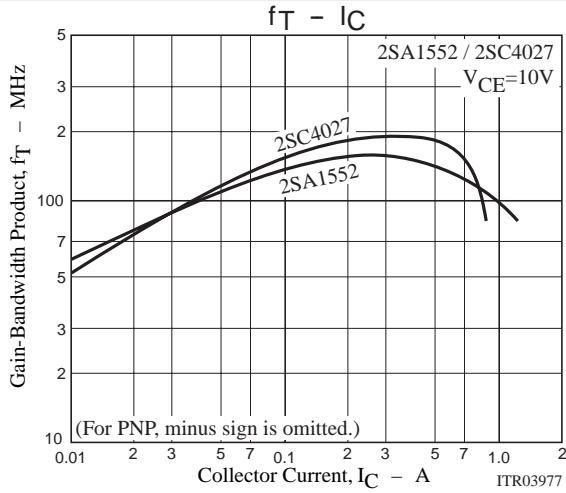
## Switching Time Test Circuit



# 2SA1552/2SC4027



# 2SA1552/2SC4027



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