

PNP/NPN Epitaxial Planar Silicon Transistors



2SA1552/2SC4027

High-Voltage Switching Applications

Applications

- Converters, inverters, color TV audio output.

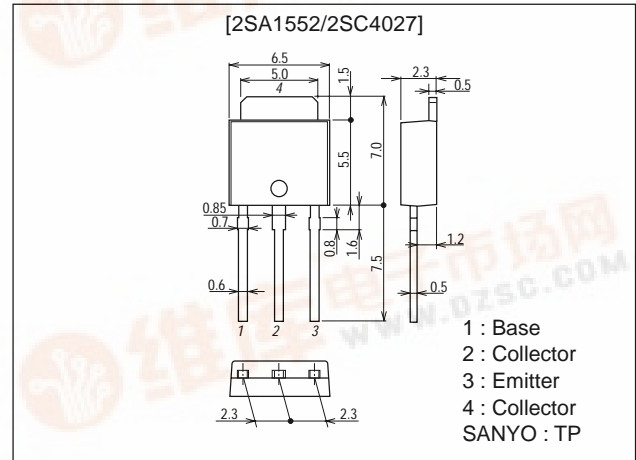
Features

- 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

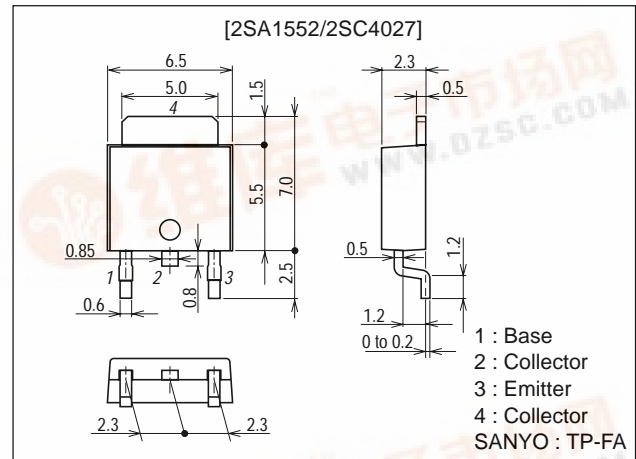
unit:mm

2045B



unit:mm

2044B



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2SA1552/2SC4027

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Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(-)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	$^\circ\text{C}$

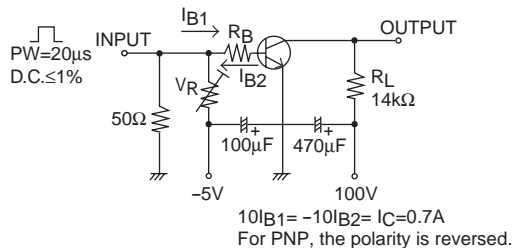
Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)120\text{V}, I_E=0$			(-)1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4\text{V}, I_C=0$			(-)1.0	μA
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		μs
Storage Time	t_{stg}	See specified Test Circuit.		(0.7)		μs
				1.2		
Fall Time	t_f	See specified Test Circuit.		(50)		μs
				80		

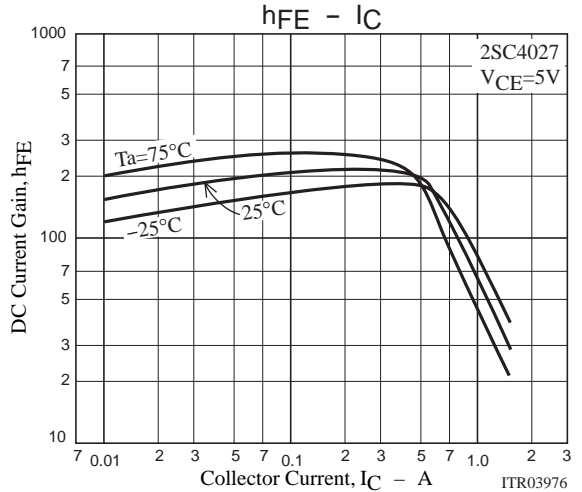
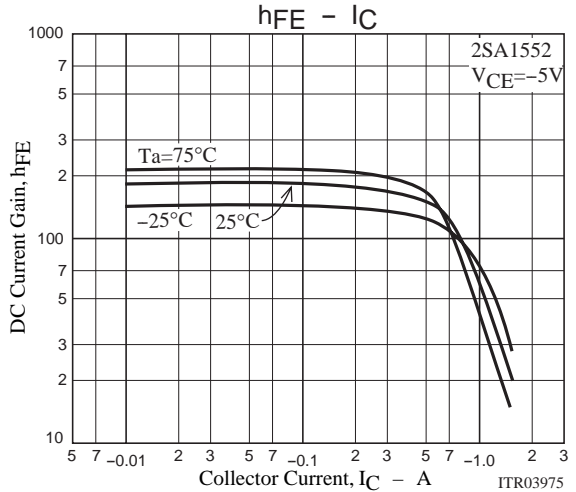
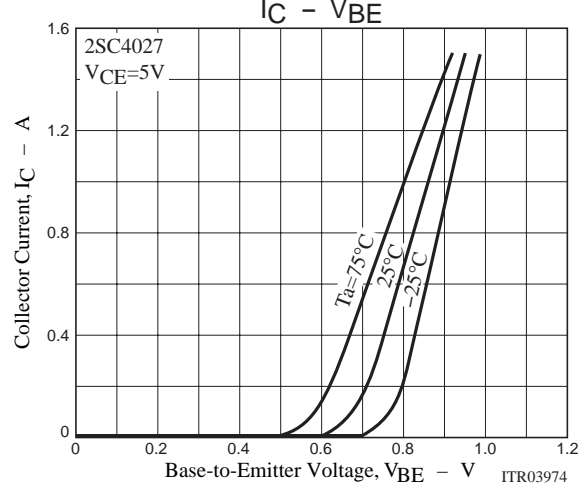
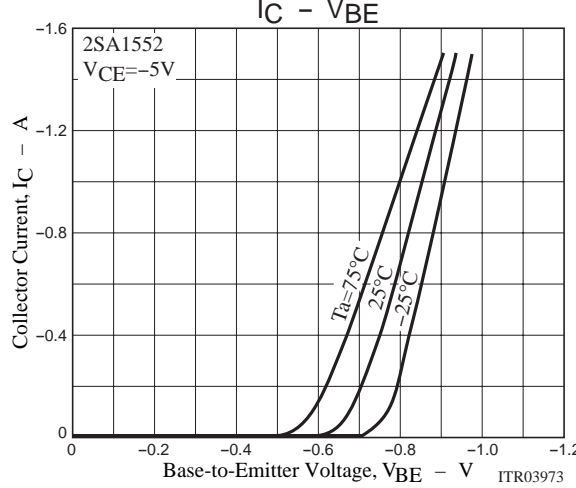
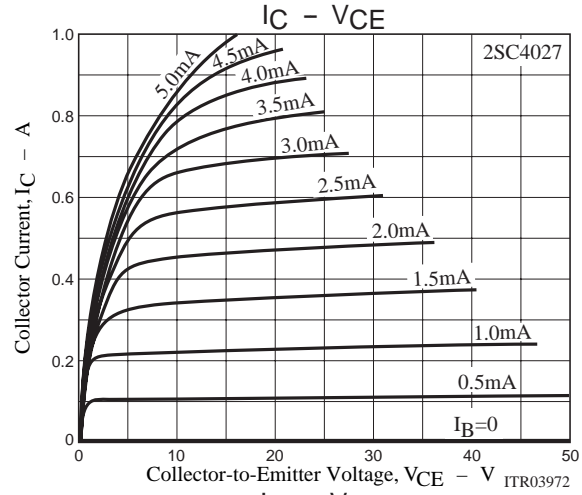
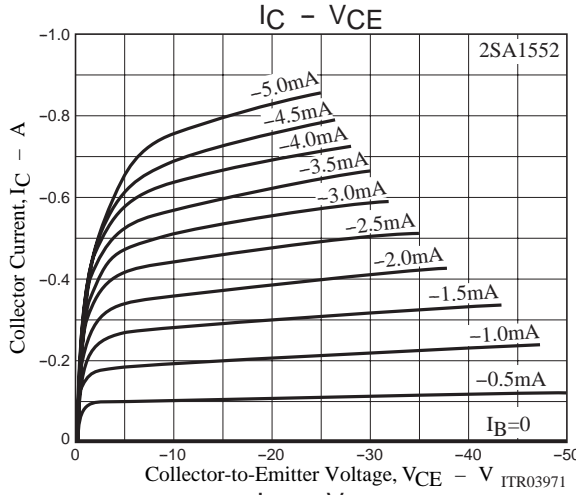
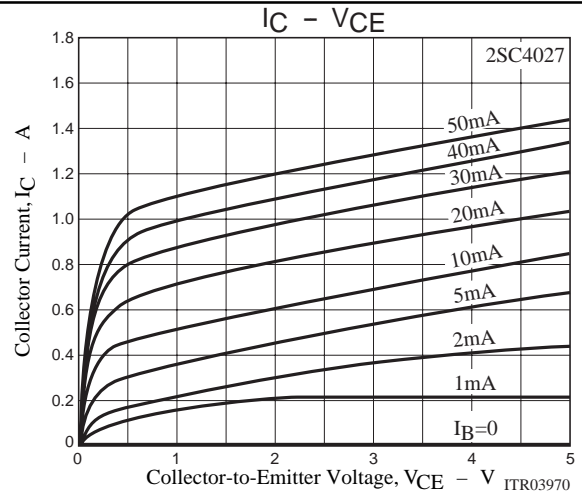
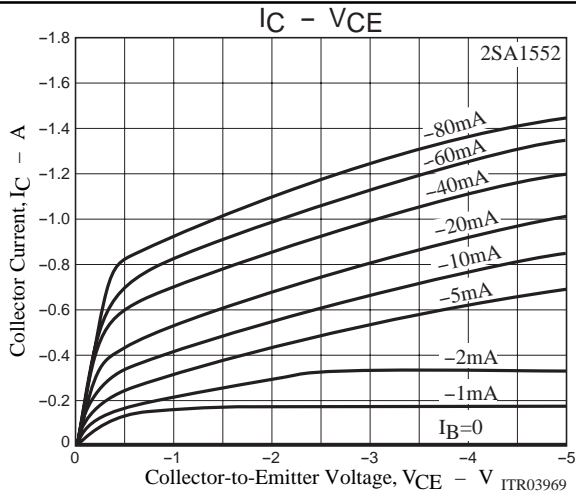
* : The 2SA1552/2SC4027 are classified by 100mA h_{FE} as follows :

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

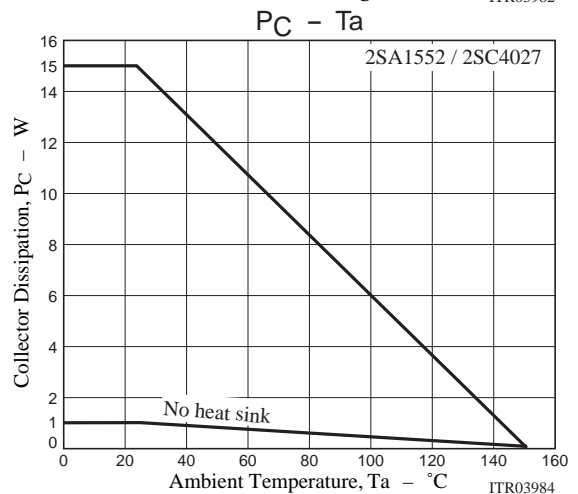
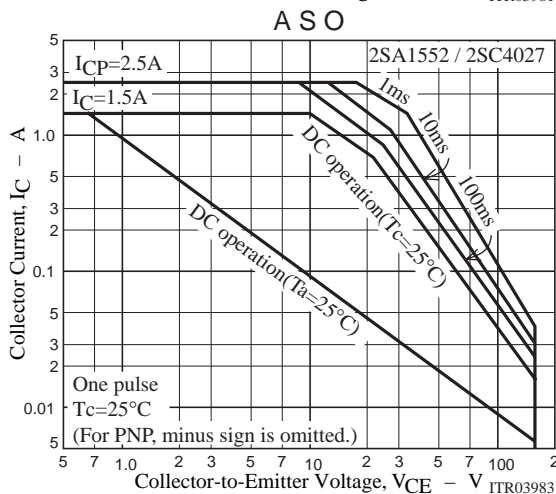
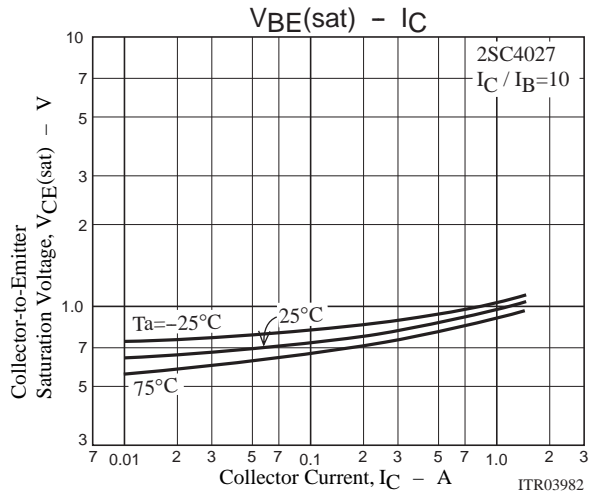
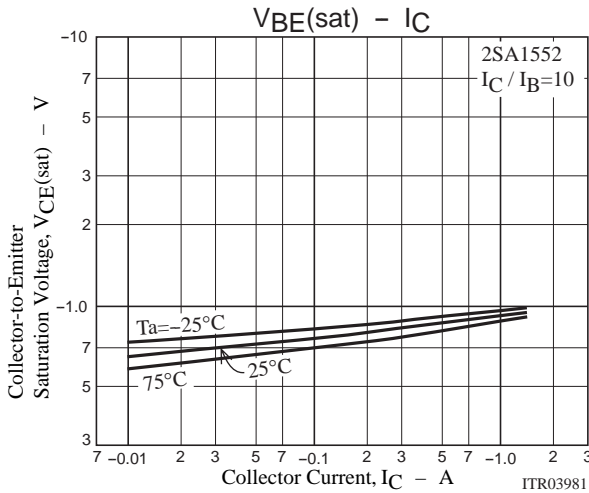
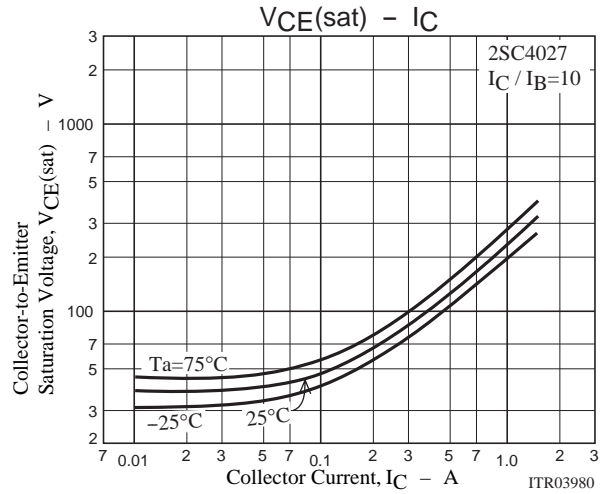
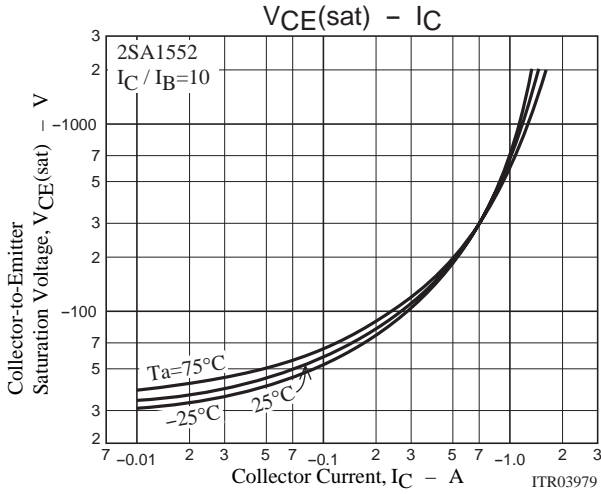
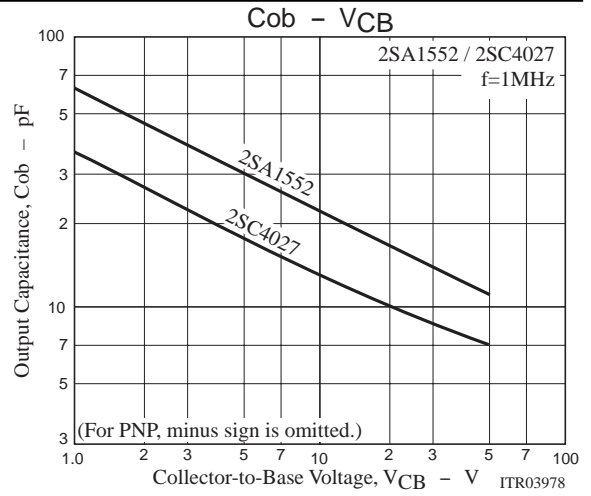
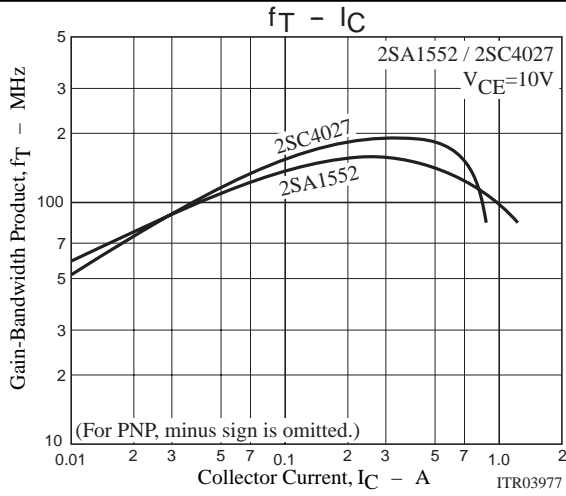
Switching Time Test Circuit



2SA1552/2SC4027



2SA1552/2SC4027



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