



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

2SA1552 / 2SC4027 — PNP / NPN Epitaxial Planar Silicon Transistors

High-Voltage Switching Applications

Applications

- Converters, inverters, color TV audio output.

Features

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

Specifications () : 2SA1552

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°C	15	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

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SANYO Semiconductor Co., Ltd.

<http://semicon.sanyo.com/en/network>

2SA1552 / 2SC4027

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)120V, I_E = 0A$			(-)1.0	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4V, I_C = 0A$			(-)1.0	μA
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}	$V_{CB} = (-)10V, f = 1MHz$		(22)12		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)500mA, I_B = (-)50mA$		(-0.2)0.13	(-0.5)0.45	V
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)500mA, I_B = (-)50mA$		(-)0.85	(-)1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0A$	(-)180			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-)160			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu A, I_C = 0A$	(-)6			V
Turn-On Time	t_{on}	See specified Test Circuit.		60		ns
Storage Time	t_{stg}	See specified Test Circuit.		(0.7)1.2		μs
Fall Time	t_f	See specified Test Circuit.		(50)80		ns

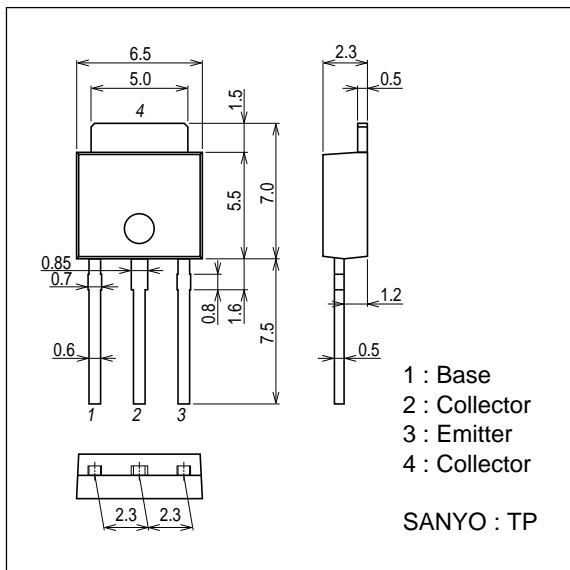
* : The 2SA1552 / 2SC4027 are classified by 100mA h_{FE} as follows:

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

Package Dimensions

unit : mm (typ)

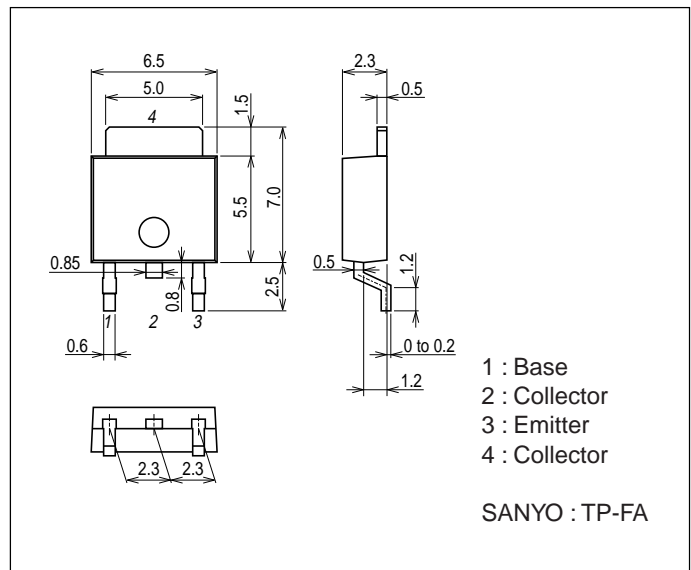
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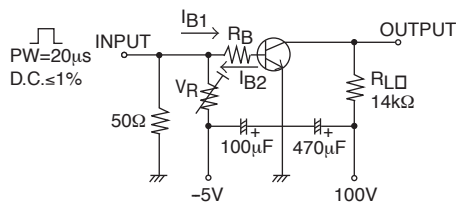
Package Dimensions

unit : mm (typ)

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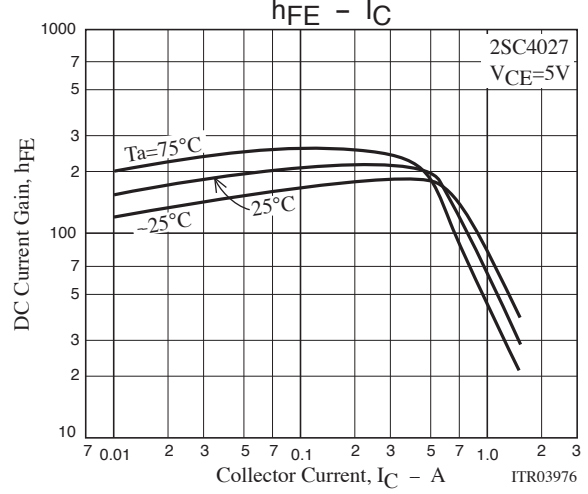
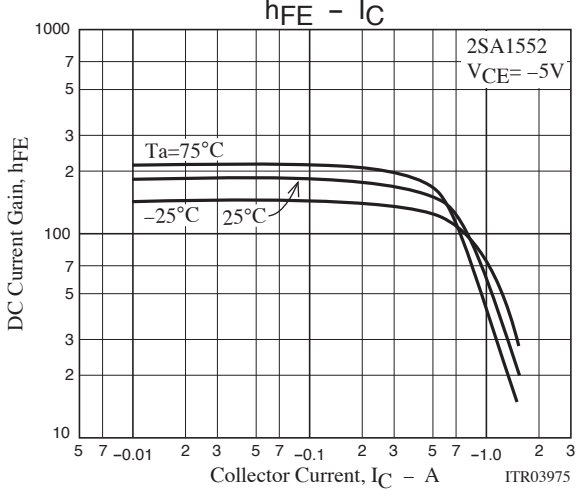
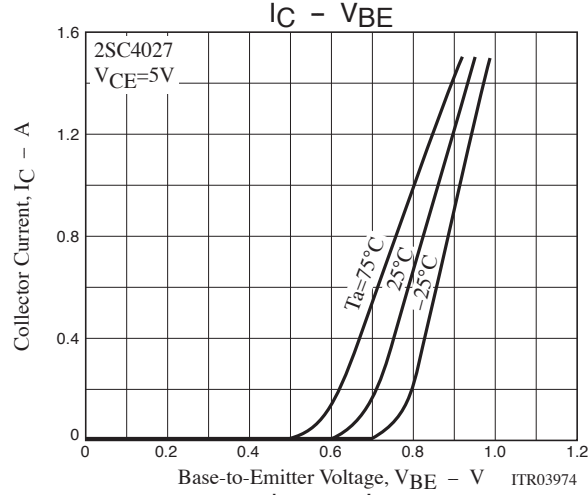
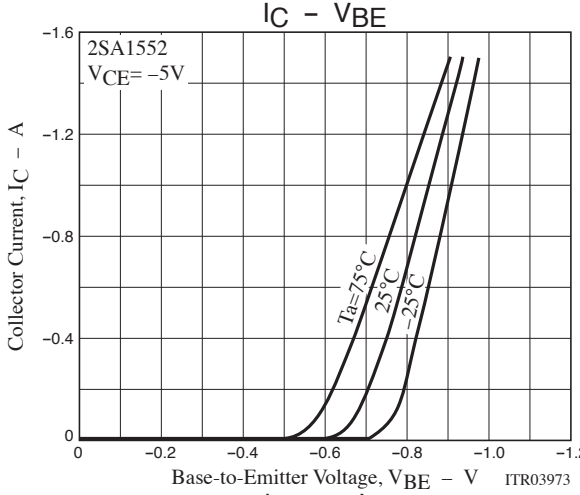
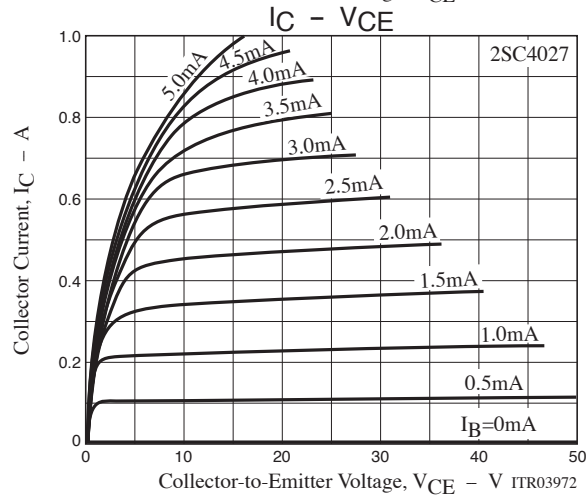
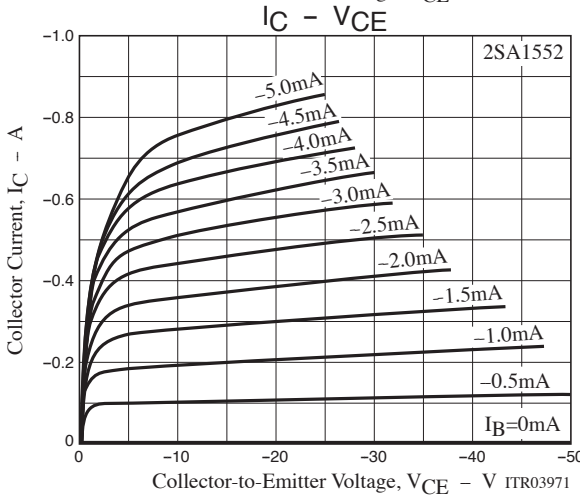
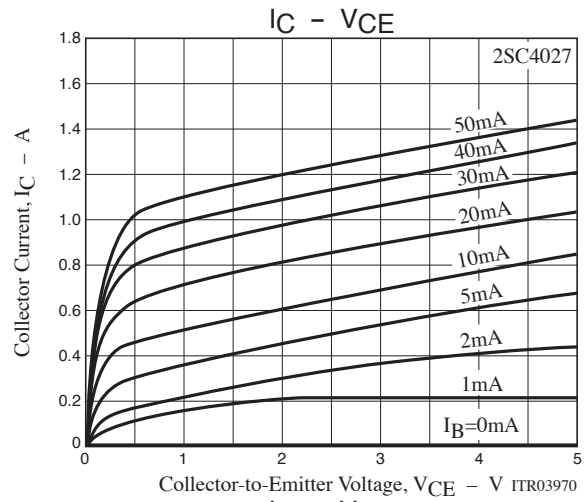
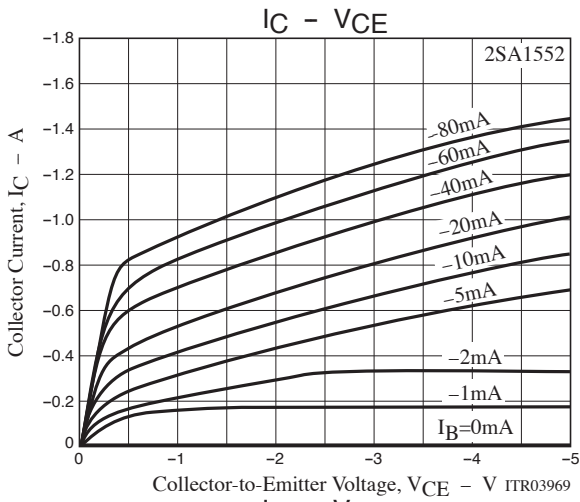


Switching Time Test Circuit

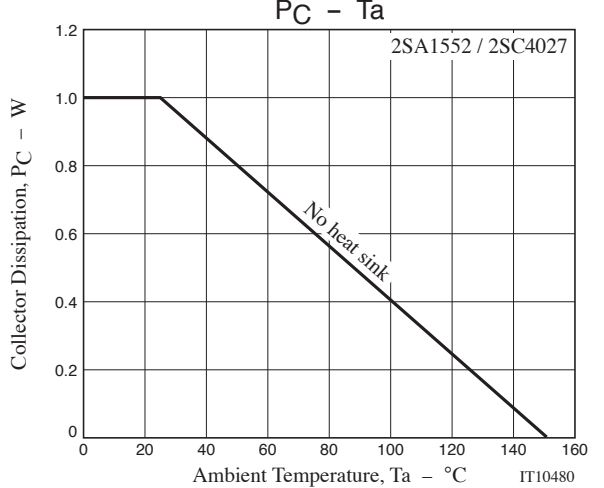
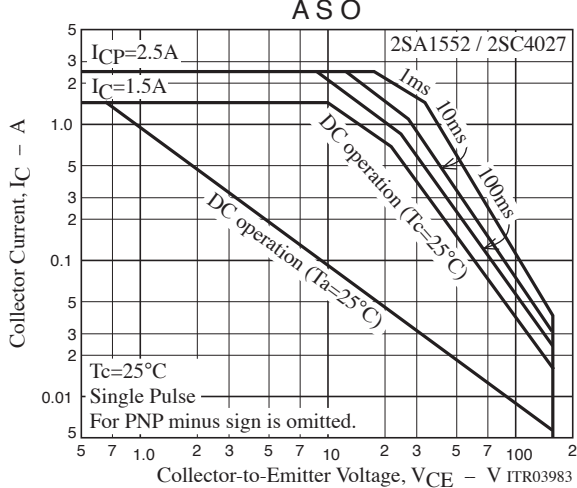
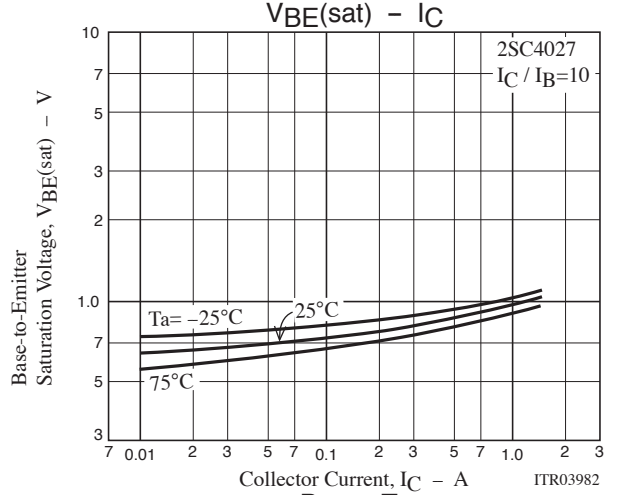
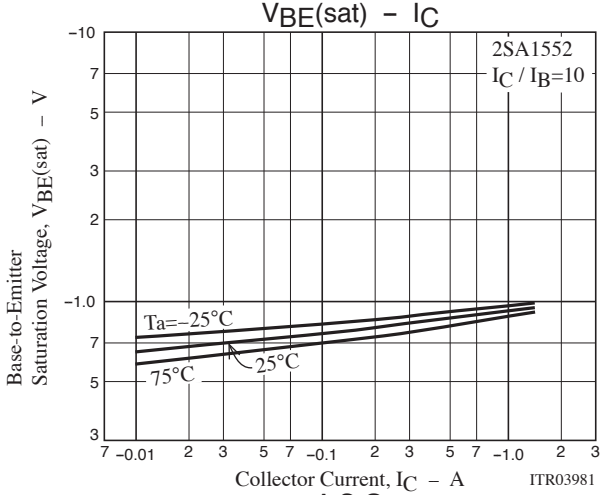
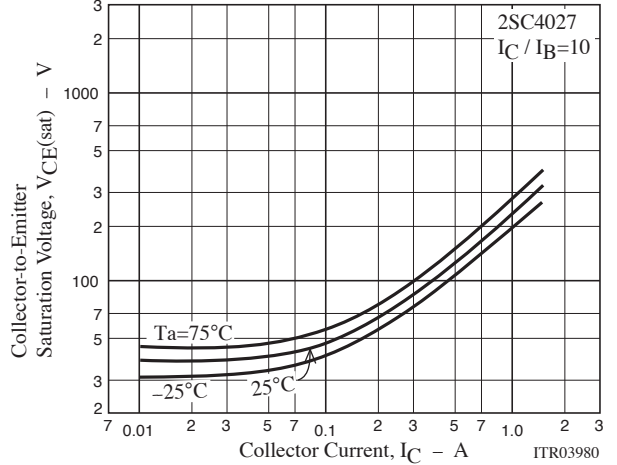
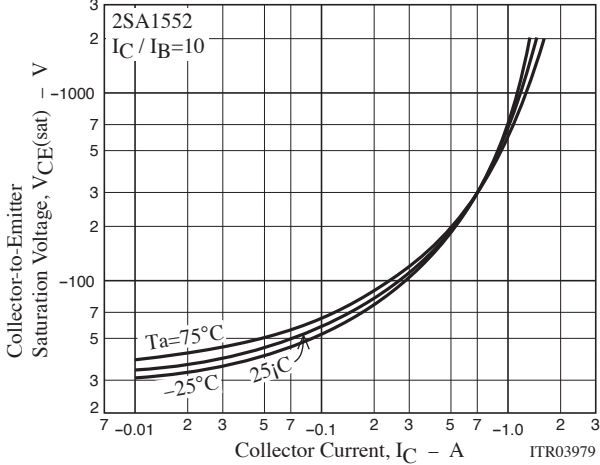
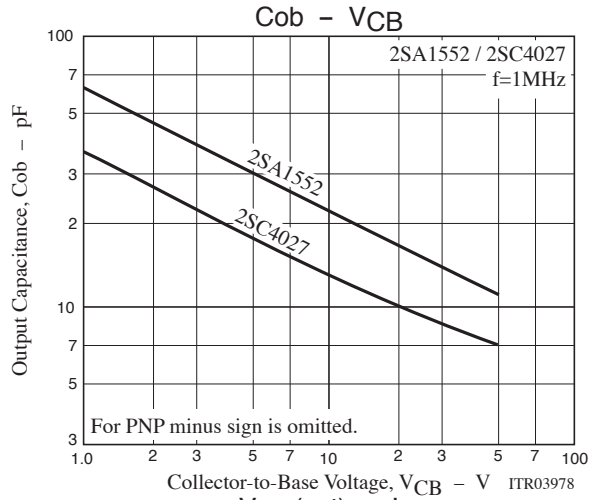
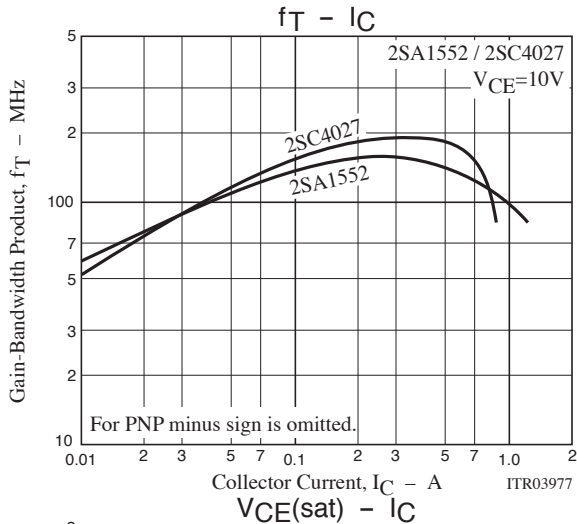


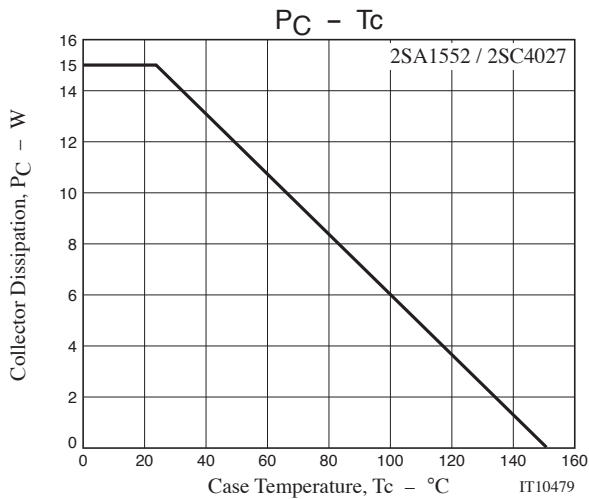
$10I_{B1} = -10I_{B2} = I_C = 0.7A$
For PNP, the polarity is reversed.

2SA1552 / 2SC4027



2SA1552 / 2SC4027





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