Ordering number: EN 2262B

SANYO

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_{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
	P_C	Tc=25°C	15	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

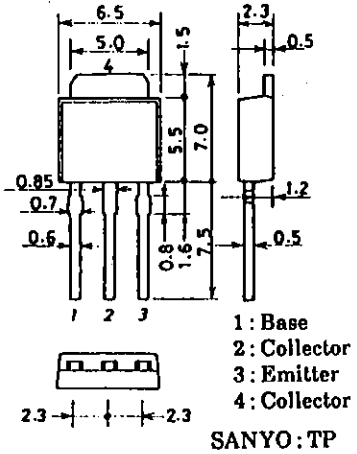
			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=(-)120V, I_E=0			(-)1.0	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(-)4V, I_C=0			(-)1.0	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=(-)5V, I_C=(-)100mA	100*		400*	
	$h_{FE(2)}$	V_{CE}=(-)5V, I_C=(-)10mA	80			
Gain-Bandwidth Product	f_T	V_{CE}=(-)10V,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

Continued on next page.

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

100 R 200	140 S 280	200 T 400

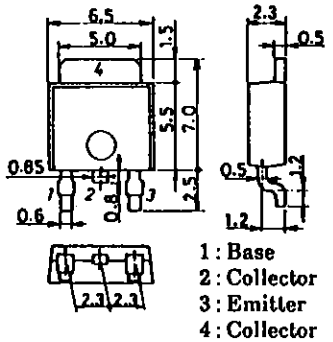
Package Dimensions 2045B
(unit: mm)



1: Base
2: Collector
3: Emitter
4: Collector

SANYO: TP

Package Dimensions 2044B
(unit: mm)



1: Base
2: Collector
3: Emitter
4: Collector

SANYO: TP-FA

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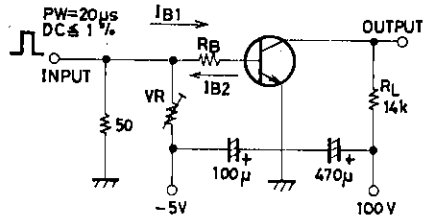
TOKYO OFFICE Tokyo Bldg., 1-10,1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

Continued from preceding page.

			min	typ	max	unit
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=(-)500mA, I_B=(-)50mA		(-0.2)	(-0.5)	V
				0.13	0.45	
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=(-)10μA, I_E=0	(-)180			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=(-)1mA, R_{BE}=∞	(-)160			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E=(-)10μA, I_C=0	(-)6			V
Turn-on Time	t_{on}	See specified Test Circuit.		60		ns
Storage Time	t_{stg}	"		(0.7)	1.2	μs
Fall Time	t_f	"		(50)	80	ns

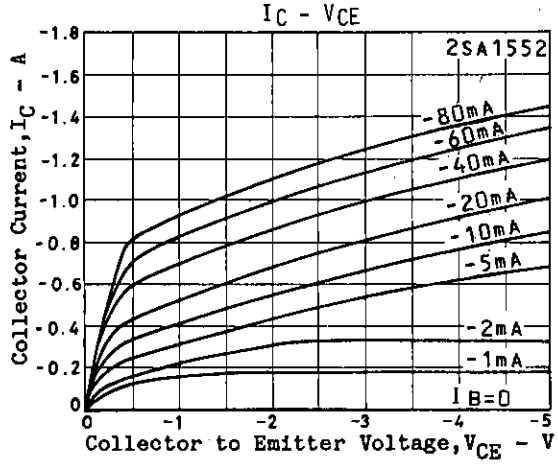
Switching Time Test Circuit

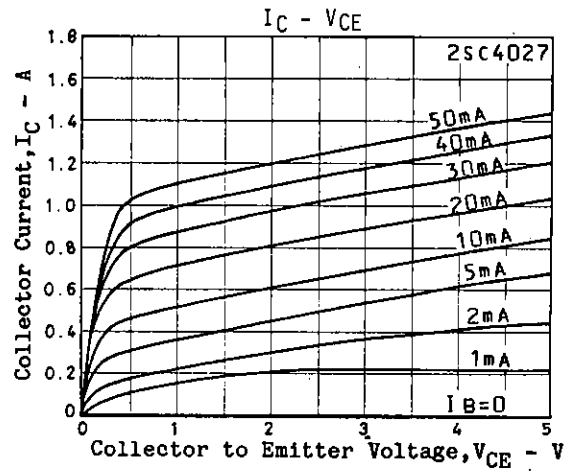


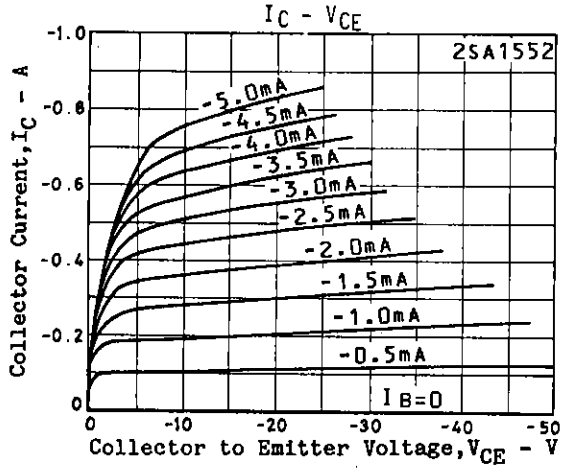
$10I_{B1}=-10I_{B2}=I_C=0.7A$

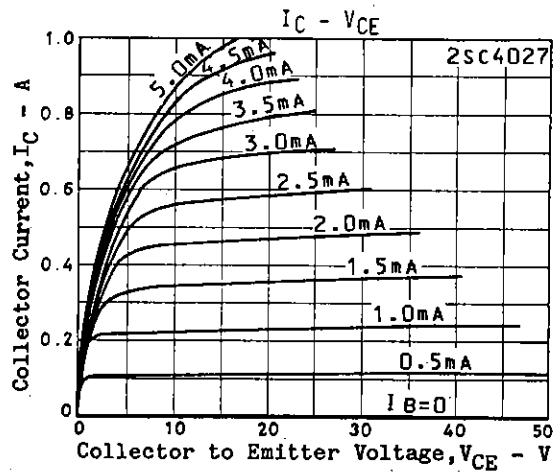
For PNP, the polarity is reversed.

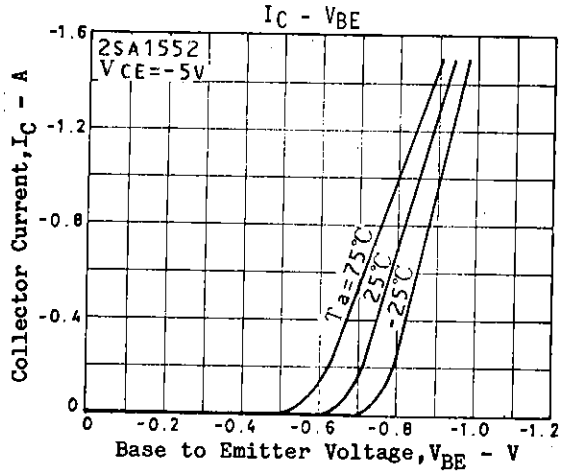
Unit (Resistance : Ω, Capacitance : F)

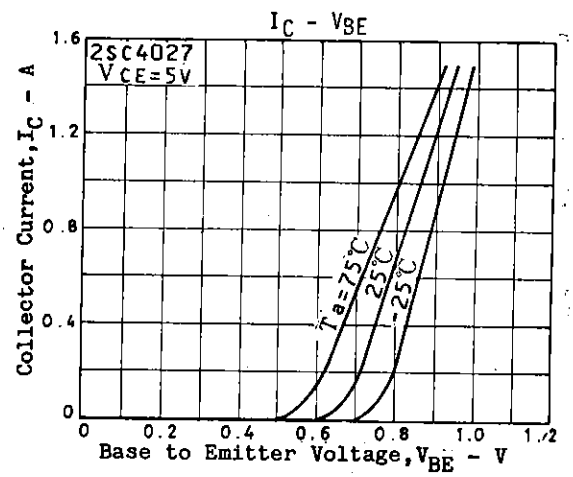


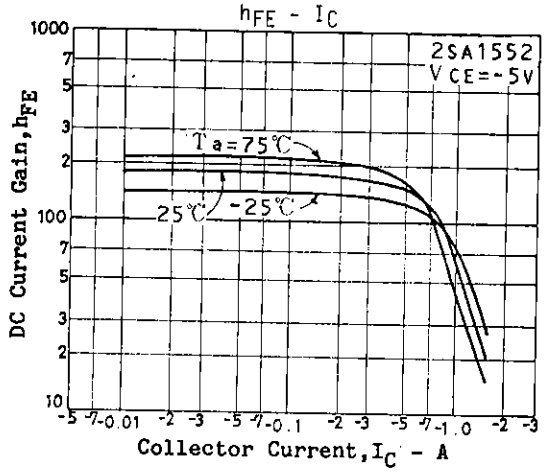


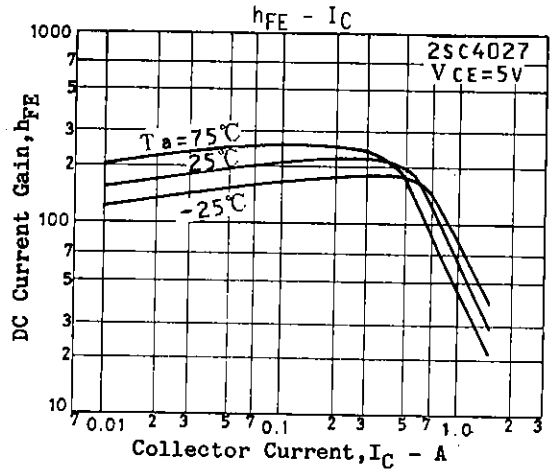


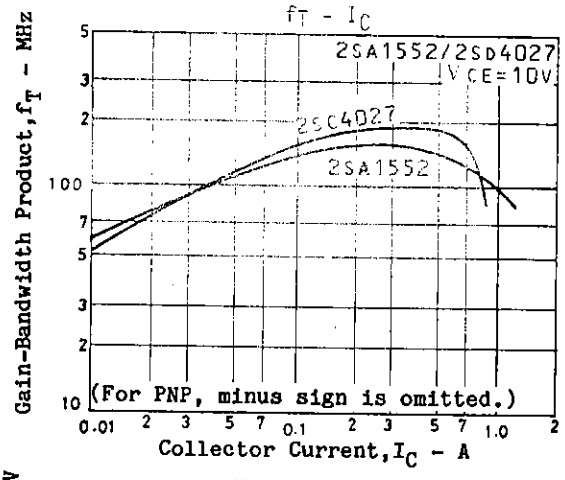


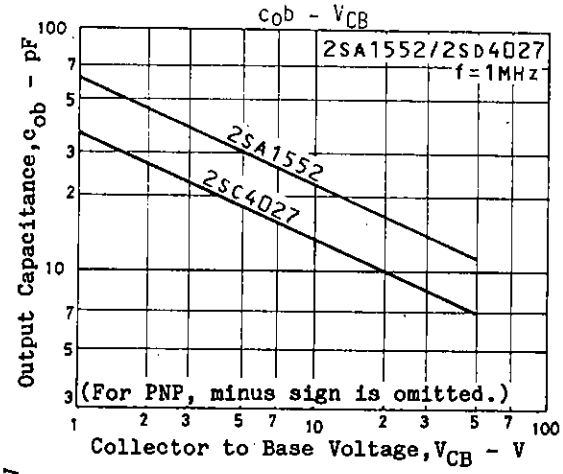

I_C - V_{BE}
2SA1552
V_{CE}=-5V
Ta=75℃
25℃
-25℃
Collector Current, I_C - A
Base to Emitter Voltage, V_{BE} - V

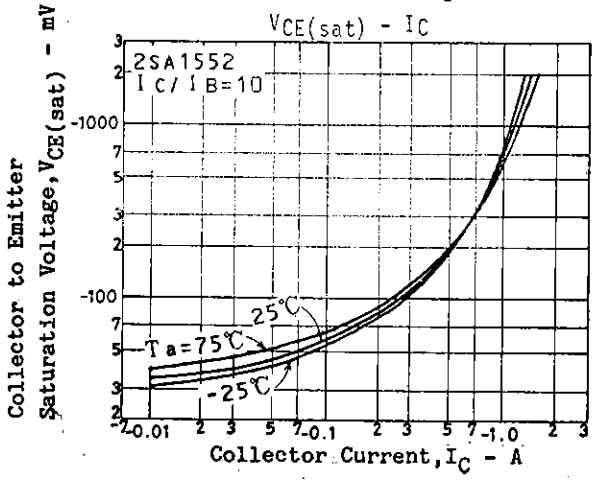

I_C - V_{BE}
2SC4027
V_{CE}=5V
Ta=75℃
25℃
-25℃
Collector Current, I_C - A
Base to Emitter Voltage, V_{BE} - V

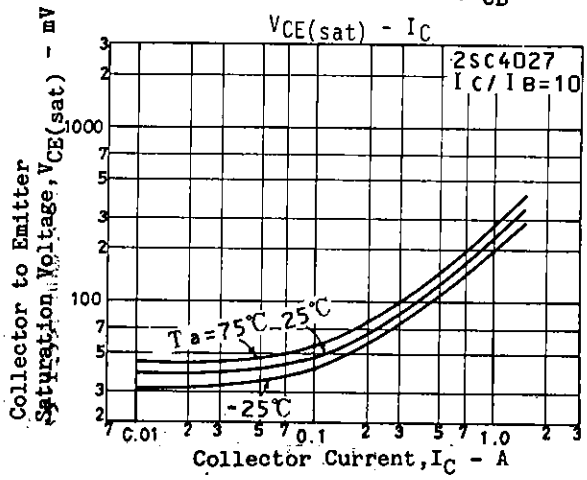

h_{FE} - I_C
2SA1552
V_{CE}=-5V
Ta=75℃
25℃
-25℃
DC Current Gain, h_{FE}
Collector Current, I_C - A


h_{FE} - I_C
2SC4027
V_{CE}=5V
Ta=75℃
25℃
-25℃
DC Current Gain, h_{FE}
Collector Current, I_C - A


f_T - I_C
2SA1552/2SD4027
V_{CE}=10V
2SC4027
2SA1552
(For PNP, minus sign is omitted.)
Gain-Bandwidth Product, f_T - MHz
Collector Current, I_C - A


C_{ob} - V_{CB}
2SA1552/2SD4027
f=1MHz
2SA1552
2SC4027
(For PNP, minus sign is omitted.)
Output Capacitance, C_{ob} - pF
Collector to Base Voltage, V_{CB} - V


$V_{CE(sat)}$ - I_C
2SA1552
I_C/I_B=10
Ta=75℃
25℃
-25℃
Collector to Emitter Saturation Voltage, $V_{CE(sat)}$ - mV
Collector Current, I_C - A


$V_{CE(sat)}$ - I_C
2SC4027
I_C/I_B=10
Ta=75℃
25℃
-25℃
Collector to Emitter Saturation Voltage, $V_{CE(sat)}$ - mV
Collector Current, I_C - A