Ordering number : ENN5282A

NPN Epitaxial Planar Silicon Transistor

2SC5291

SANYO

High-Voltage Switching Applications

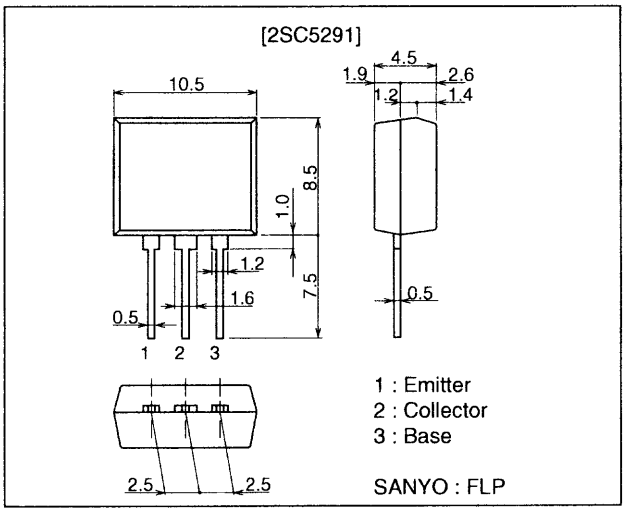
Features

- Adoption of FBET, MBIT processes.
- Large current capacity.
- Can be provided in taping.
- 9.5mm onboard mounting height.

Package Dimensions

unit : mm

2084B



Specifications

Absolute Maximum Ratings at Ta=25°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
Base Current	I_B		300	mA
Collector Dissipation	P_C		1.5	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
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

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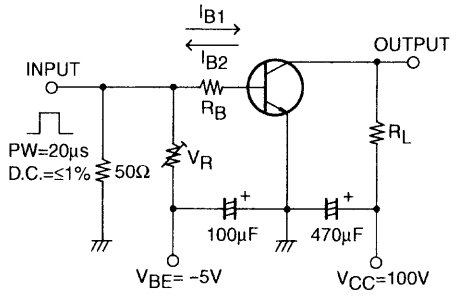
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	$h_{FE}1$	V_{CE}=5V, I_C=100mA	100		400	
	$h_{FE}2$	V_{CE}=5V, I_C=10mA	90			
Gain-Bandwidth Product	f_T	V_{CE}=10V, I_C=50mA		120		MHz
Output Capacitance	Cob	V_{CB}=10V, f=1MHz		14		pF
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=500mA, I_B=50mA		0.13	0.45	V
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C=500mA, I_B=50mA		0.85	1.2	V
Turn-ON Time	t_{on}	See specified Test Circuit		4.0		ns
Storage Time	t_{stg}	See specified Test Circuit		1.2		μs
Fall Time	t_f	See specified Test Circuit		8.0		ns

* : The 2SC5291 is classified by 100mA h_{FE} as follows :

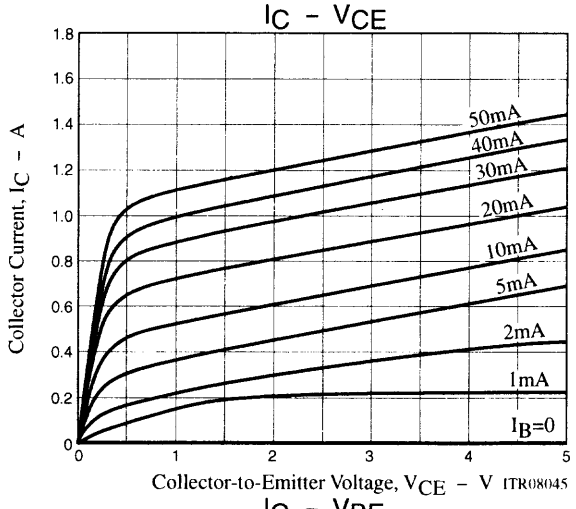
Rank	R	S	T
h_{FE}	100 to 200	140 to 280	200 to 400

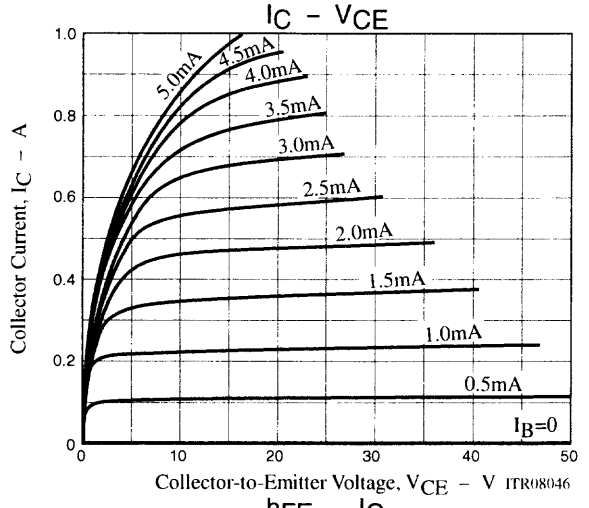
Switching Time Test Circuit

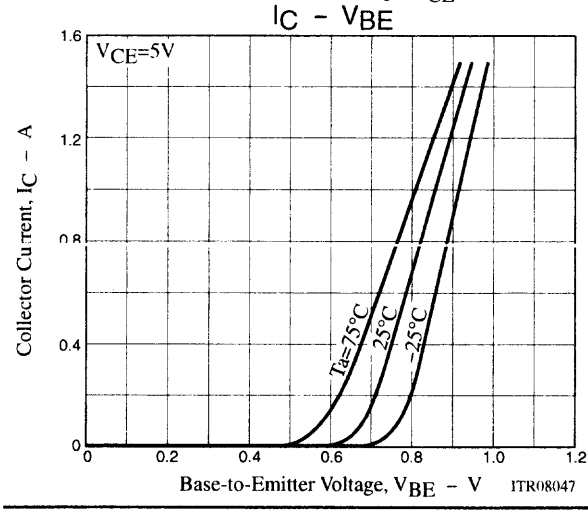


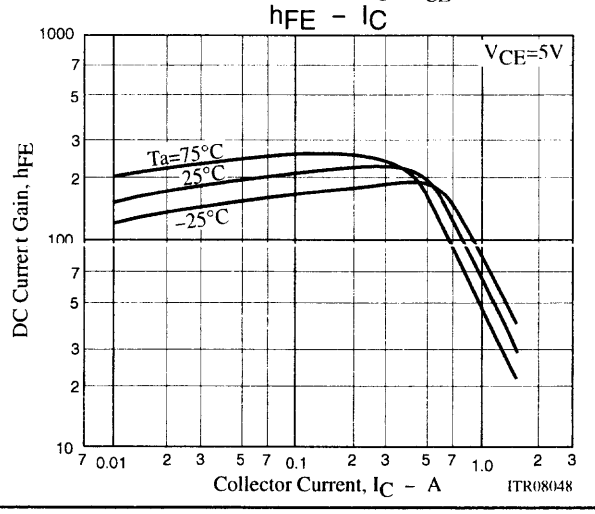
$10I_{B1}=-10I_{B2}=I_C=700mA$

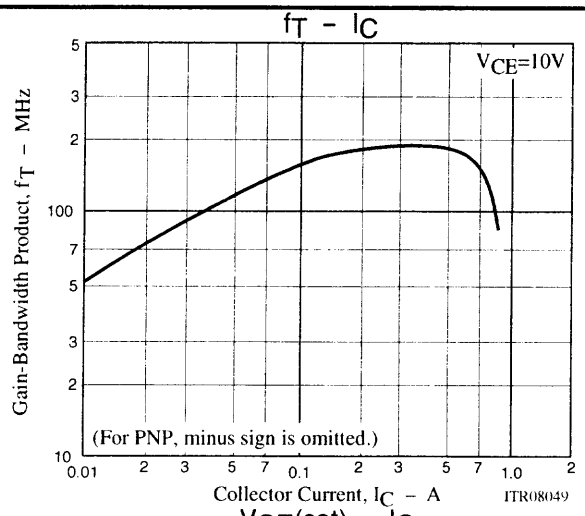
$R_L=140\Omega$, $R_B=14\Omega$ at $I_C=700mA$

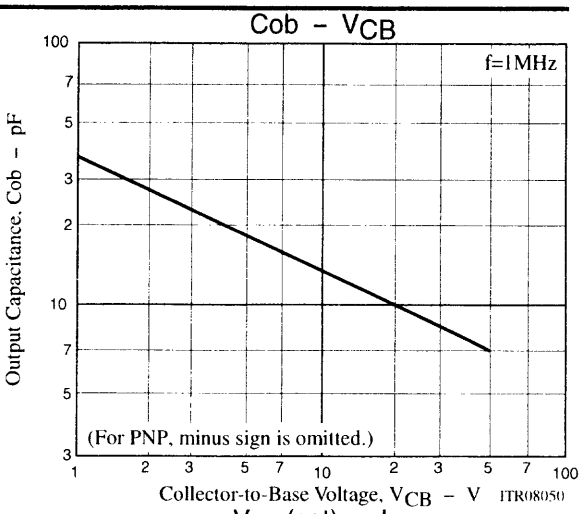


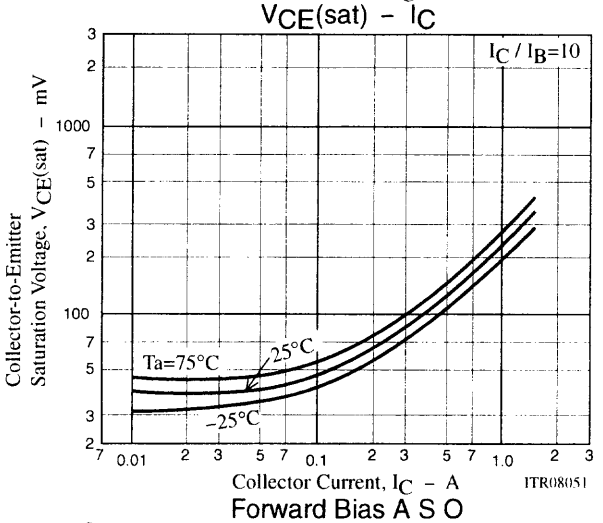


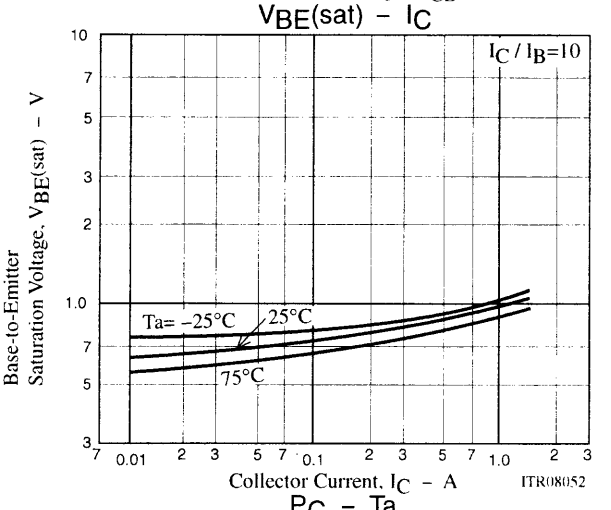


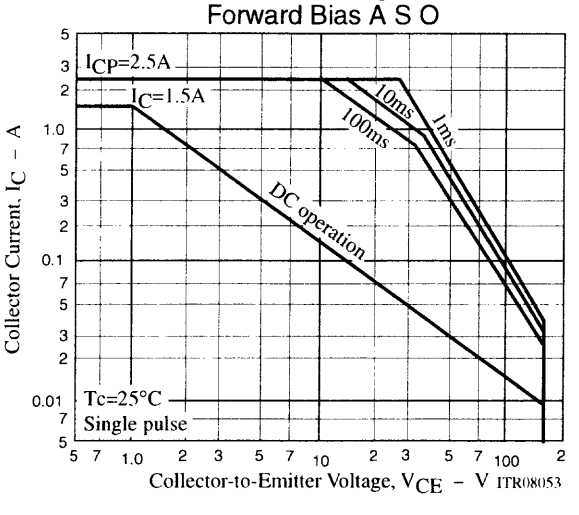


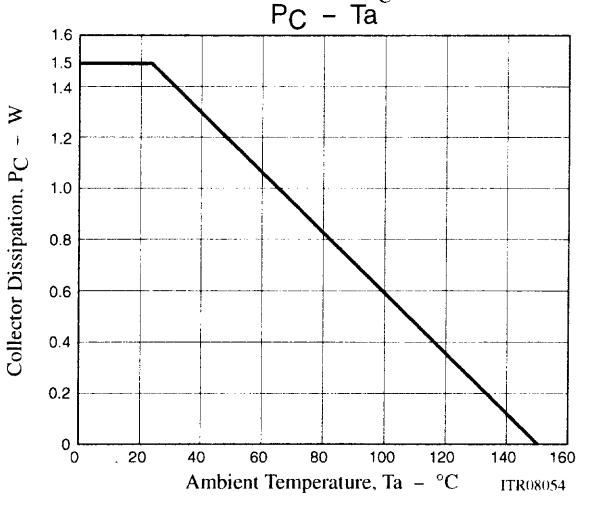

fT - IC
VCE=10V
Gain-Bandwidth Product, fT - MHz
(For PNP, minus sign is omitted.)
Collector Current, IC - A
ITR08049


Cob - VCB
f=1MHz
Output Capacitance, Cob - pF
(For PNP, minus sign is omitted.)
Collector-to-Base Voltage, VCB - V
ITR08050


VCE(sat) - IC
IC / IB=10
Collector-to-Emitter Saturation Voltage, VCE(sat) - mV
Ta=75°C
25°C
-25°C
Collector Current, IC - A
ITR08051


VBE(sat) - IC
IC / IB=10
Base-to-Emitter Saturation Voltage, VBE(sat) - V
Ta= -25°C
25°C
75°C
Collector Current, IC - A
ITR08052


Forward Bias A S O
ICP=2.5A
IC=1.5A
10ms
100ms
1ms
DC operation
Tc=25°C
Single pulse
Collector Current, IC - A
Collector-to-Emitter Voltage, VCE - V
ITR08053


PC - Ta
Collector Dissipation, PC - W
Ambient Temperature, Ta - °C
ITR08054