Ordering number : ENN8022

SANYO Semiconductors
DATA SHEET

2SA2127 — PNP Epitaxial Planar Silicon Transistor
High-Current Switching Applications

Applications

- Voltage regulators, relay drivers, lamp drivers, electrical equipment.

Features

- Adoption of MBIT process.
- Low saturation voltage.
- High current capacity and wide ASO.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		–50	V
Collector-to-Emitter Voltage	V_{CEO}		–50	V
Emitter-to-Base Voltage	V_{EBO}		–6	V
Collector Current	I_C		–2	A
Collector Current (Pulse)	I_{CP}		–4	A
Base Current	I_B		–400	mA
Collector Dissipation	P_C		1	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}=–40V, I_E=0			–1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=–4V, I_C=0			–1	μA
DC Current Gain	$h_{FE}1$	V_{CE}=–2V, I_C=–100mA	200		560	
	$h_{FE}2$	V_{CE}=–2V, I_C=–1.5A	40			
Gain-Bandwidth Product	f_T	V_{CE}=–10V, I_C=–300mA		420		MHz
Output Capacitance	Cob	V_{CB}=–10V, f=1MHz		16		pF

Continued on next page.

■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

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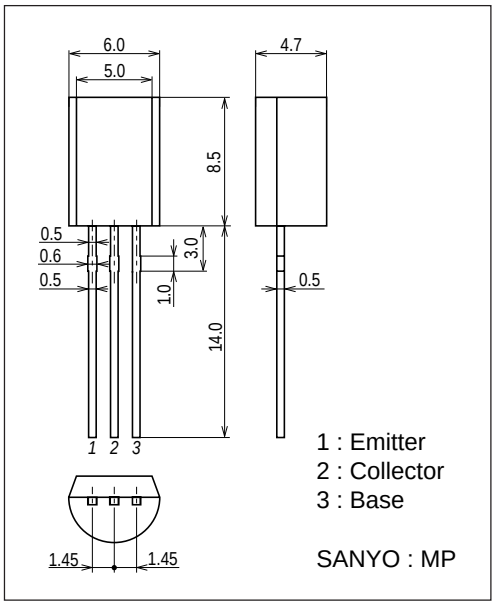
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	V_{CE}(sat)	I_C=–1A, I_B=–50mA		–0.2	–0.4	V
Base-to-Emitter Saturation Voltage	V_{BE}(sat)	I_C=–1A, I_B=–50mA		–0.9	–1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=–10μA, I_E=0	–50			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=–1mA, R_{BE}=∞	–50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=–10μA, I_C=0	–6			V
Turn-On Time	t_{on}	See specified test circuit.		35		ns
Storage Time	t_{stg}	See specified test circuit.		250		ns
Fall Time	t_f	See specified test circuit.		24		ns

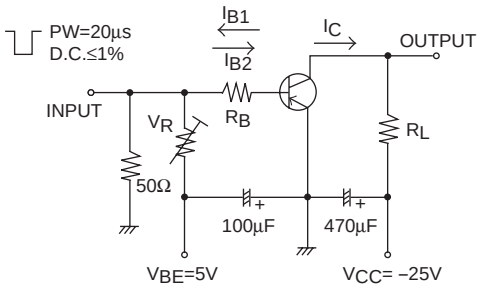
Package Dimensions

unit : mm

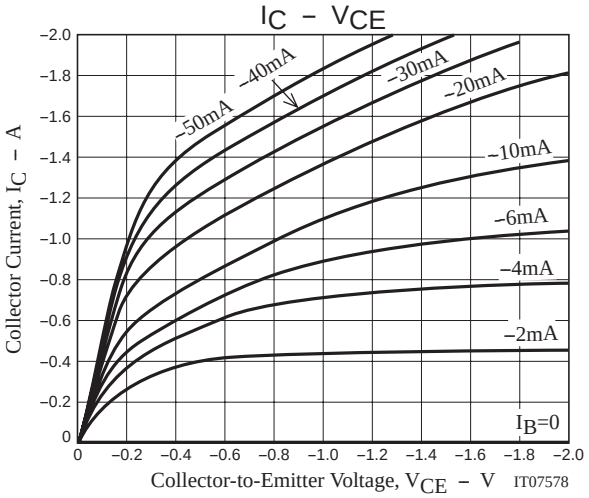
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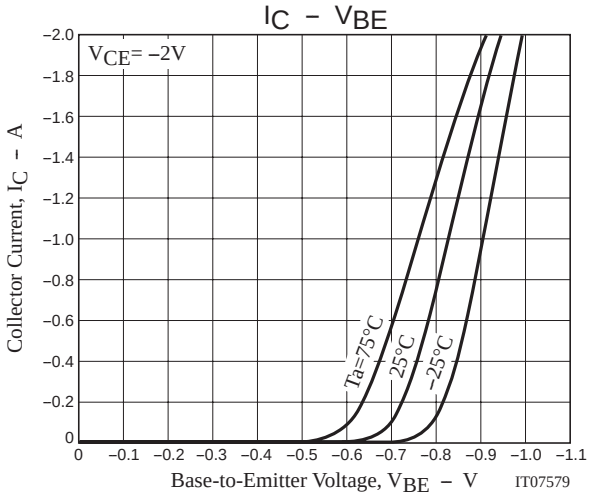


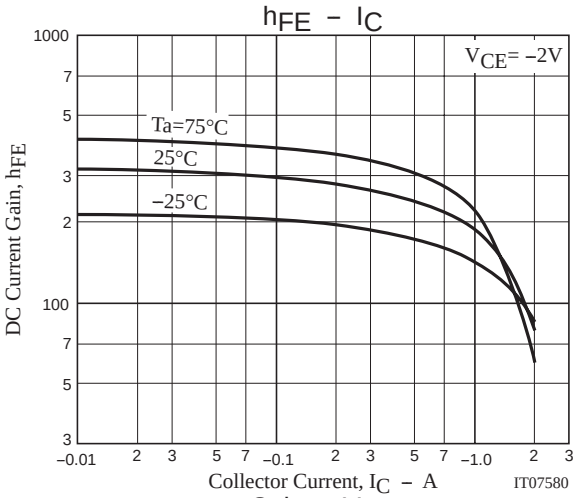
Switching Time Test Circuit

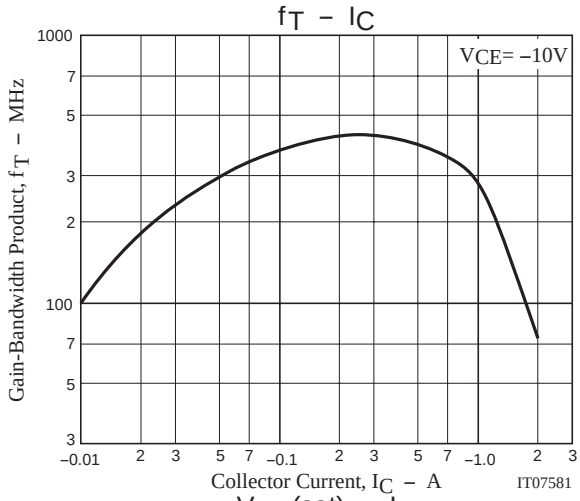


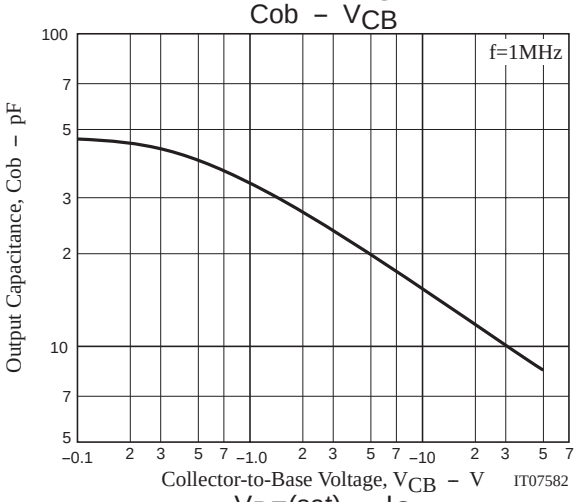
I_C=10I_{B1}= –10I_{B2}= –0.5A

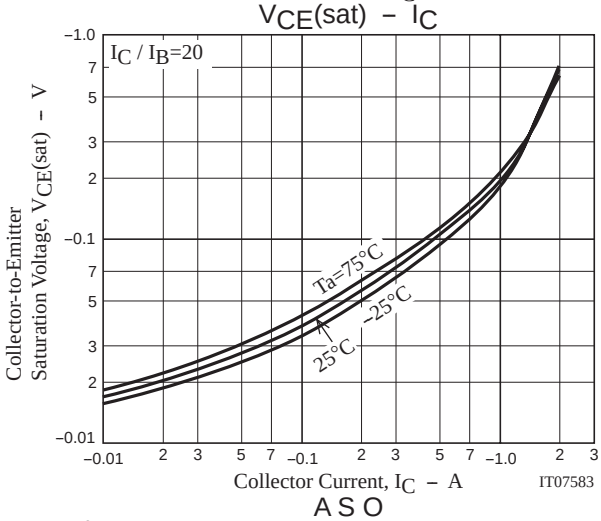


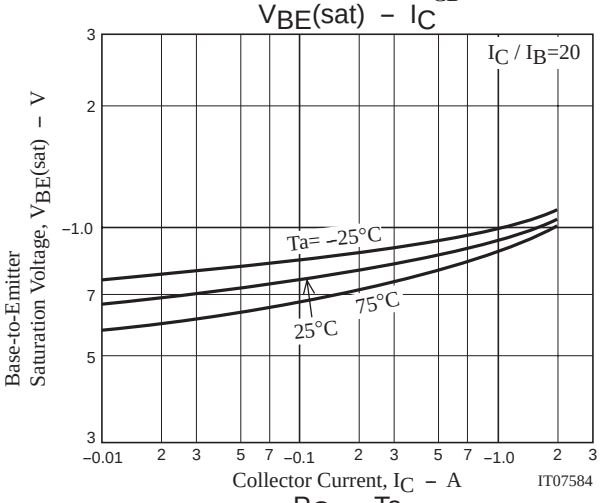


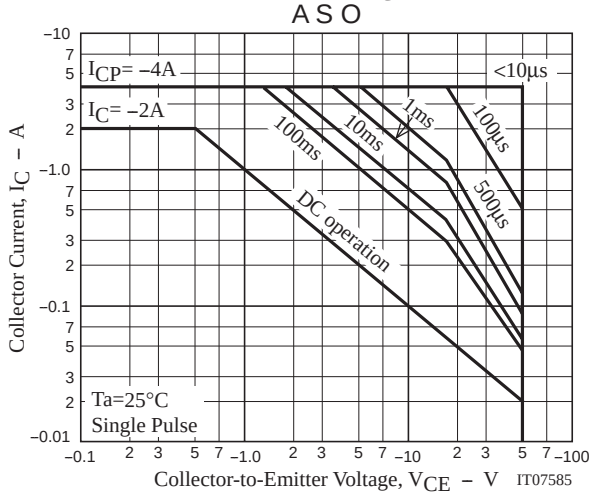

hFE – IC
VCE= –2V
Ta=75°C
25°C
–25°C
DC Current Gain, hFE
Collector Current, IC – A
IT07580

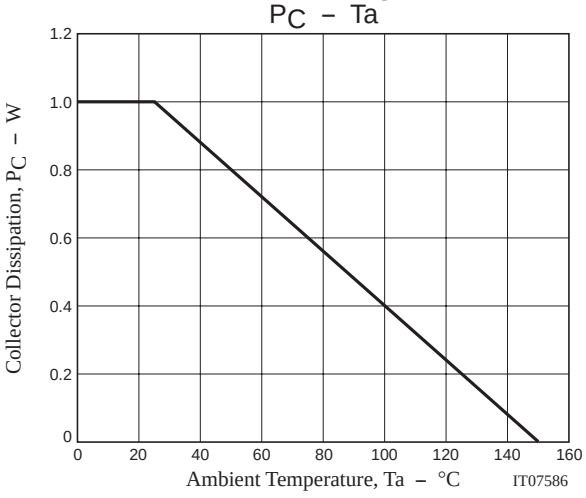

fT – IC
VCE= –10V
Gain-Bandwidth Product, fT – MHz
Collector Current, IC – A
IT07581


Cob – VCB
f=1MHz
Output Capacitance, Cob – pF
Collector-to-Base Voltage, VCB – V
IT07582


VCE(sat) – IC
IC / IB=20
Ta=75°C
–25°C
25°C
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Collector Current, IC – A
IT07583


VBE(sat) – IC
IC / IB=20
Ta= –25°C
75°C
25°C
Base-to-Emitter Saturation Voltage, VBE(sat) – V
Collector Current, IC – A
IT07584


A S O
ICP= –4A
IC= –2A
<10µs
100µs
1ms
10ms
100ms
500µs
DC operation
Ta=25°C
Single Pulse
Collector Current, IC – A
Collector-to-Emitter Voltage, VCE – V
IT07585


PC – Ta
Collector Dissipation, PC – W
Ambient Temperature, Ta – °C
IT07586

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