



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

PNP Epitaxial Planar Silicon Transistor

2SA2222SG — High-Current Switching Applications

Applications

- Relay drivers, lamp drivers, motor drivers

Features

- Adoption of MBIT process
- Large current capacity ($I_C = -10A$)
- Low collector-to-emitter saturation voltage ($V_{CE(sat)} = -250mV$ (typ.))
- High-speed switching ($t_f = 22ns$ (typ.))

Specifications

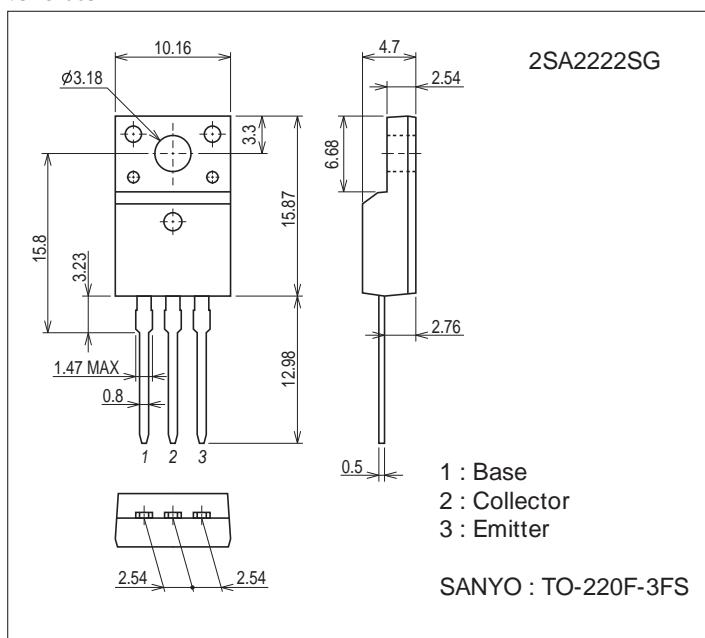
Absolute Maximum Ratings at Ta=25°C

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		-10	A
Collector Current (Pulse)	I_{CP}		-13	A
Base Current	I_B		-2	A
Collector Dissipation	P_C	$T_C=25^\circ\text{C}$, $P_T \leq 1\text{s}$	25	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Package Dimensions

unit : mm (typ)

7528-003

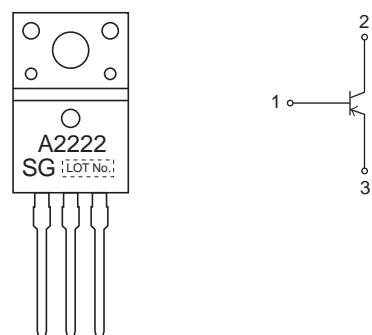


Product & Package Information

- Package : TO-220F-3FS
- JEITA, JEDEC : SC-67
- Minimum Packing Quantity : 50 pcs./magazine

Marking

Electrical Connection



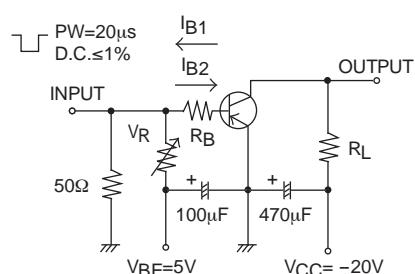
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<http://www.sanyosemi.com/en/network/>

Electrical Characteristics at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-40V, I_E=0A$			-10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4V, I_C=0A$			-10	μA
DC Current Gain	h_{FE}	$V_{CE}=-2V, I_C=-270mA$	150		450	
Gain-Bandwidth Product	f_T	$V_{CE}=-10V, I_C=-1A$		230		MHz
Output Capacitance	C_{ob}	$V_{CB}=-10V, f=1MHz$		115		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-6A, I_B=-300mA$		-250	-500	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=-6A, I_B=-300mA$			-1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-100\mu A, I_E=0A$	-50			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1mA, R_{BE}=\infty$	-50			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-100\mu A, I_C=0A$	-6			V
Turn-On Time	t_{on}	See specified Test Circuit.		40		ns
Storage Time	t_{stg}			240		ns
Fall Time	t_f			22		ns

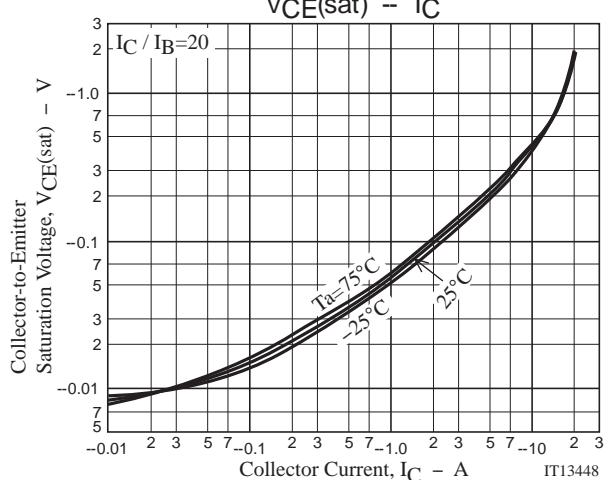
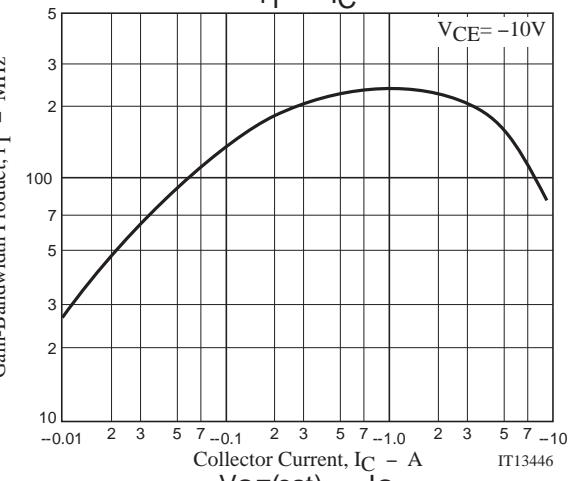
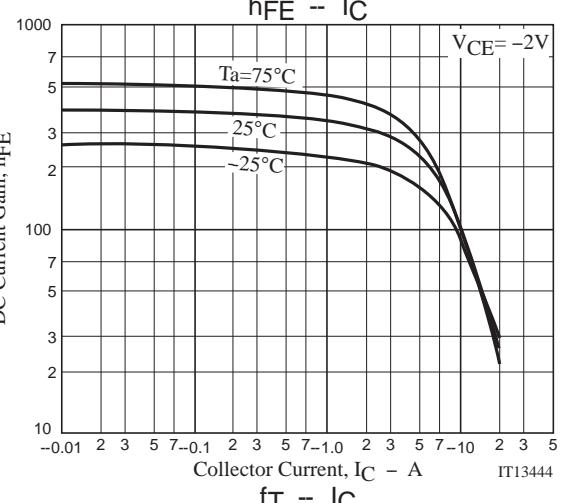
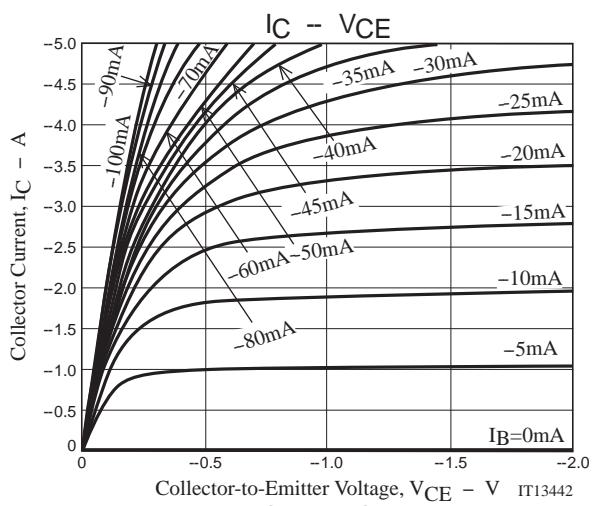
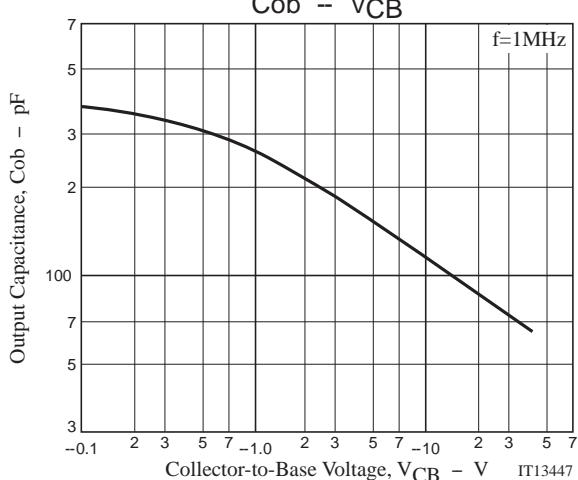
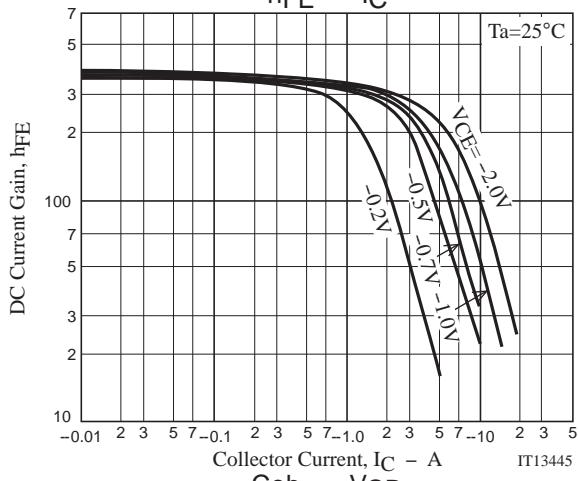
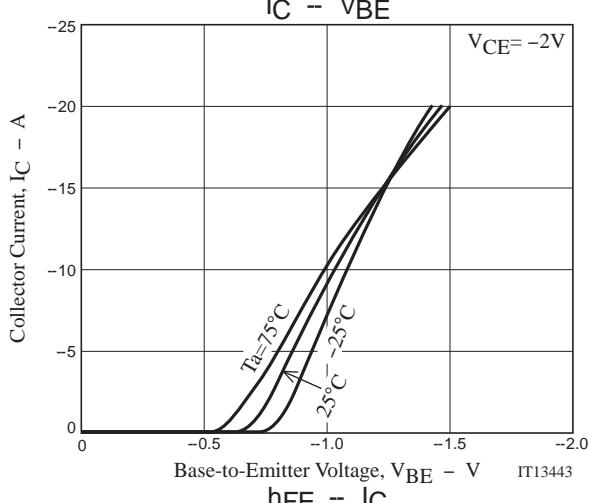
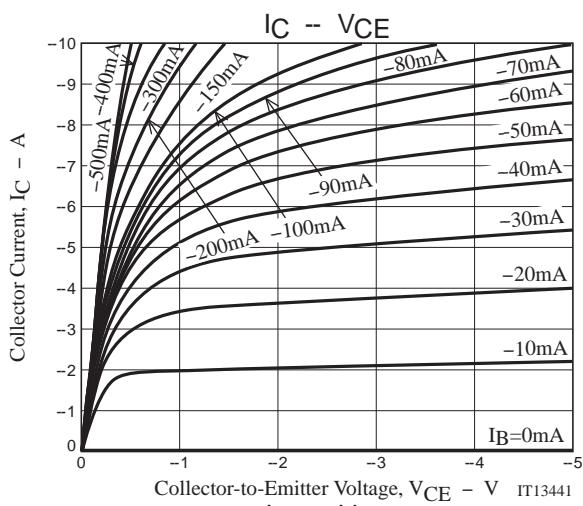
Switching Time Test Circuit

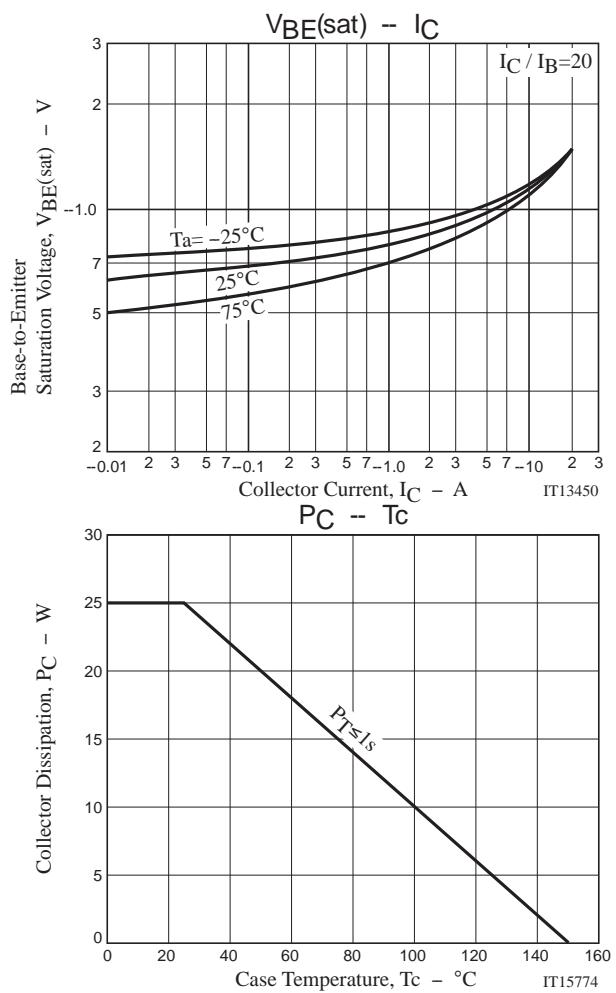
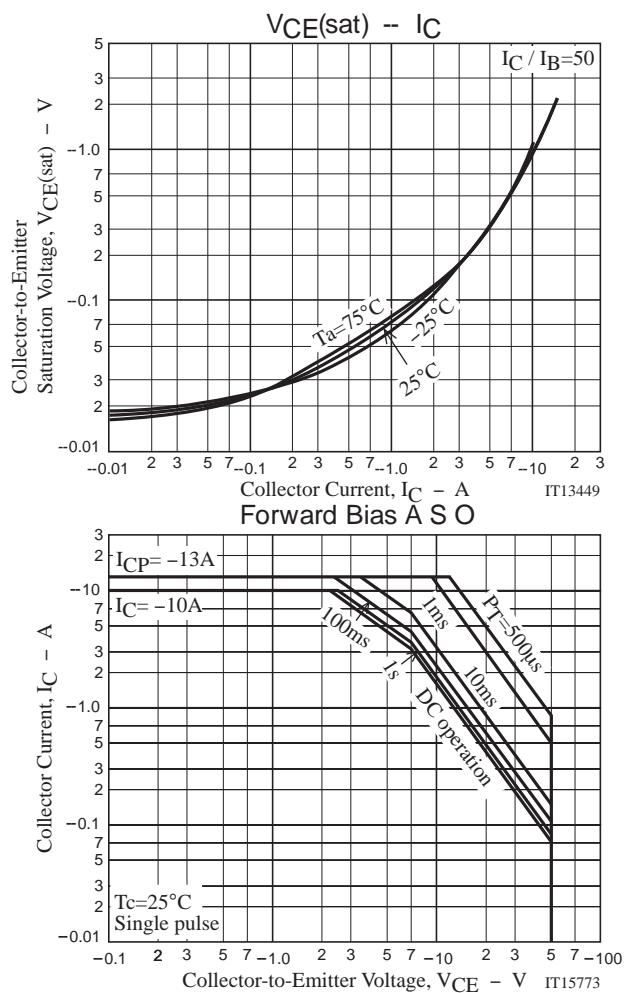


$$I_C=20I_{B1}=-20I_{B2}=-5A$$

Ordering Information

Device	Package	Shipping	memo
2SA2222SG	TO-220F-3FS	50pcs./magazine	Pb Free





Magazine Specification

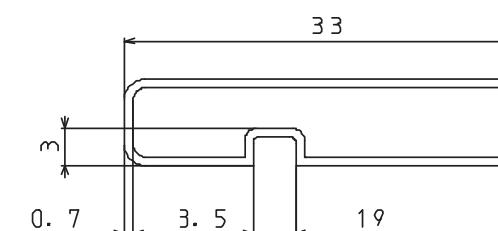
2SA2222SG

1. Packing Format

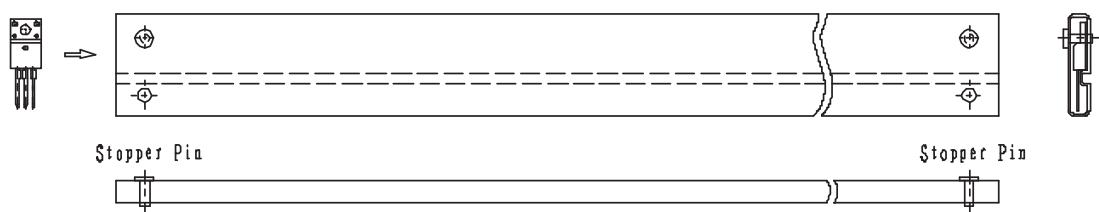
Package Name	Magazine Name	Maximum Number of devices contained (pcs)			Packing format	
		Magazine	Inner box	Outer box	Inner BOX	Outer BOX
TO-220F-3FS	TO-220F	50	1,000	4,000	SPD-0V0001 20 magazines contained Dimensions:mm{external} 568×150×55	SPT-081029 4 inner boxes contained Dimensions:mm{external} 590×225×178

2. Magazine dimensions

(unit:mm)



Tolerance=±0.3mm
Thickness=0.7±0.2mm
Length =532.5±2mm
Material =PVC (Antistatic treatment)

3. Storage method to magazine**4. Inner box label (unit:mm)**

Type No. →	69
LOT No. →	00
Quantity →	0,000 (1) LEAD FREE *
Origin →	*Z0722005310C* ASSEMBLY:**** (DIFFUSION:****)

NOTE (1)

The LEAD FREE * description shows that the surface treatment of the terminal is lead free.

Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A

5. Outer box label (unit:mm)

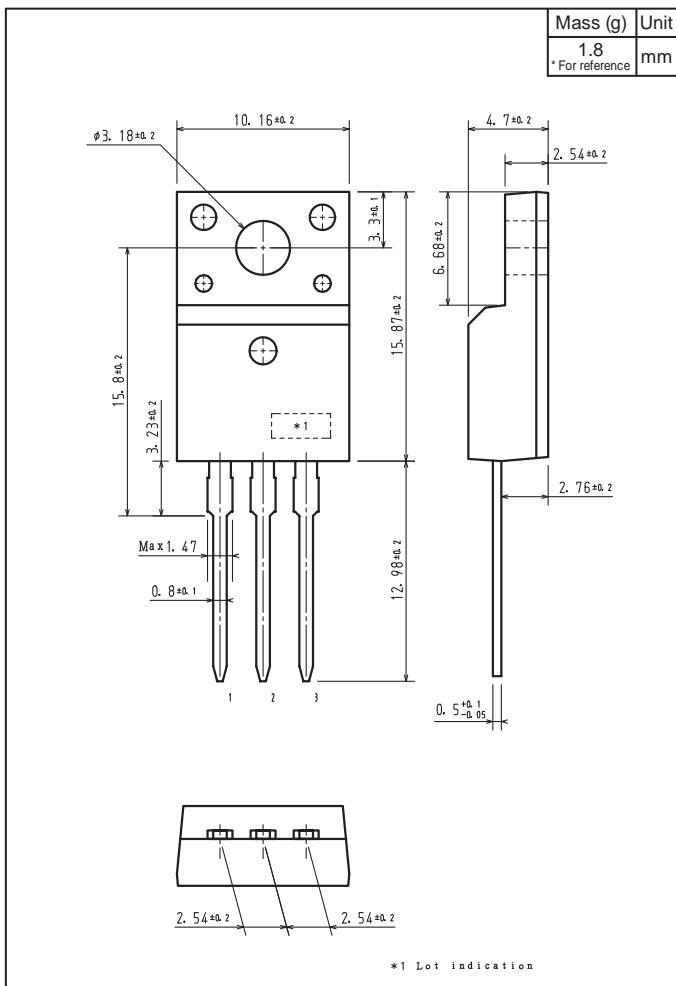
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.

TYPE CODE	*****
TYPE	00000000
QTY	0,000 PCS (1)
LOT	00000000
PACKAGE	00000000
SPECIAL	*****
ASSEMBLY	**** (DIFFUSION:****)

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Outline Drawing

2SA2222SG



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