

PNP Epitaxial Planar Silicon Transistor  
NPN Triple Diffused Planar Silicon Transistor

**SANYO**

**2SA2031 / 2SC5669**

**230V / 15A, AF100W Output Applications**

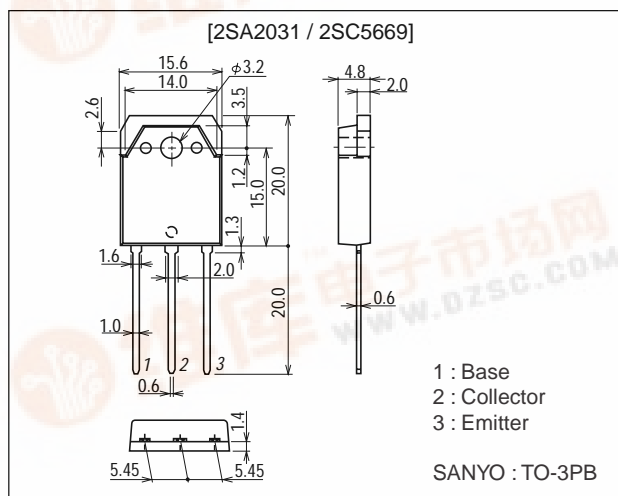
## Features

- Large current capacitance.
- Wide ASO and high durability against breakdown.
- Adoption of MBIT process.

## Package Dimensions

unit : mm

2022A



## Specifications

Note\*( ) : 2SA2031

**Absolute Maximum Ratings** at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V <sub>CB0</sub>		(-)250	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>		(-)230	V
Emitter-to-Base Voltage	V <sub>EB0</sub>		(-)6	V
Collector Current	I <sub>C</sub>		(-)15	A
Collector Current (Pulse)	I <sub>CP</sub>		(-)30	A
Collector Dissipation	P <sub>C</sub>		2.5	W
		T <sub>C</sub> =25°C	140	W
Junction Temperature	T <sub>J</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

**Electrical Characteristics** at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> =(-)250V, I <sub>E</sub> =0			(-)0.1	mA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =(-)4V, I <sub>C</sub> =0			(-)0.1	mA
DC Current Gain	h <sub>FE</sub> (1)	V <sub>CE</sub> =(-)5V, I <sub>C</sub> =(-)1A	60		160	
	h <sub>FE</sub> (2)	V <sub>CE</sub> =(-)5V, I <sub>C</sub> =(-)7.5A	35			

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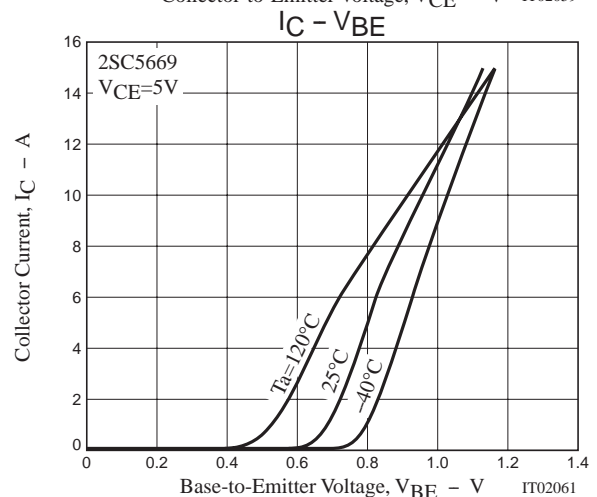
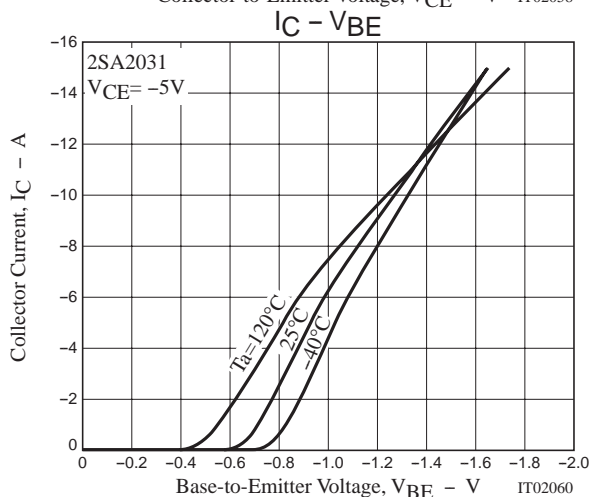
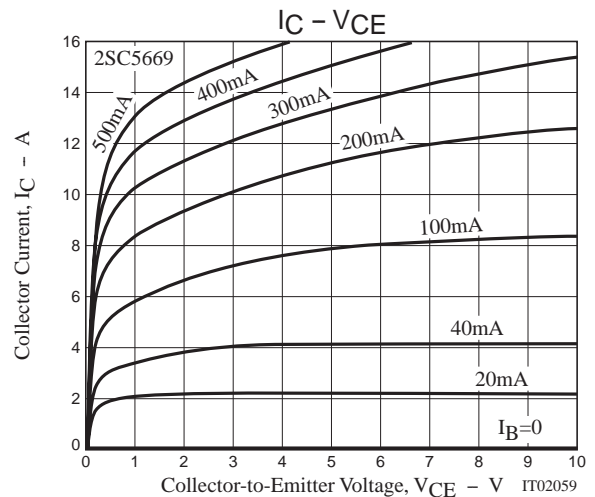
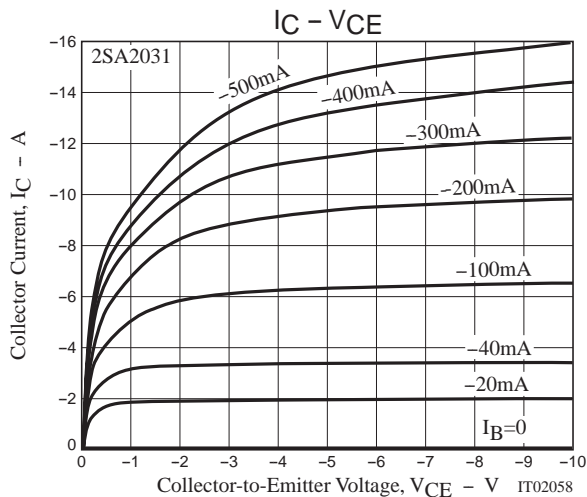
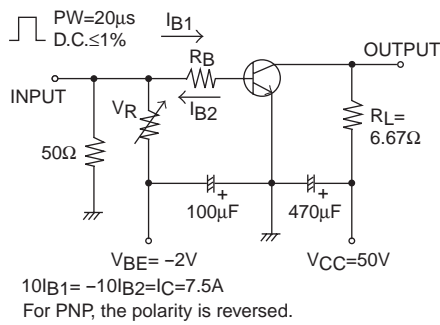
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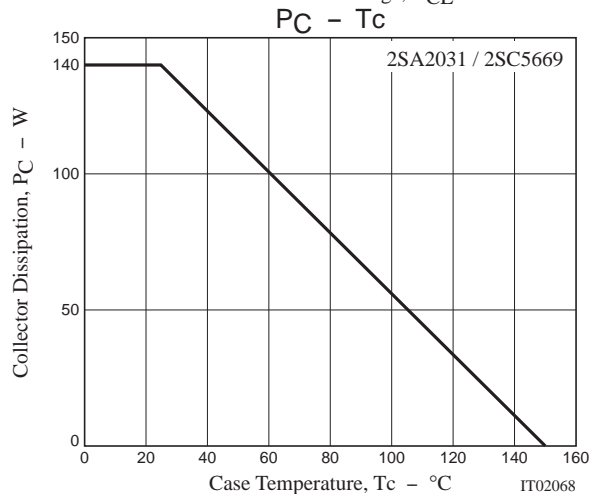
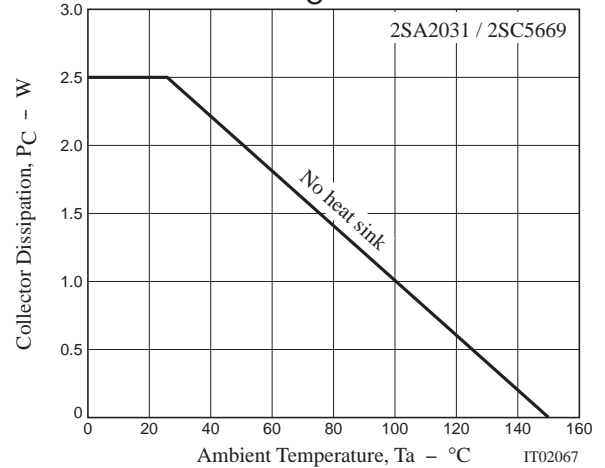
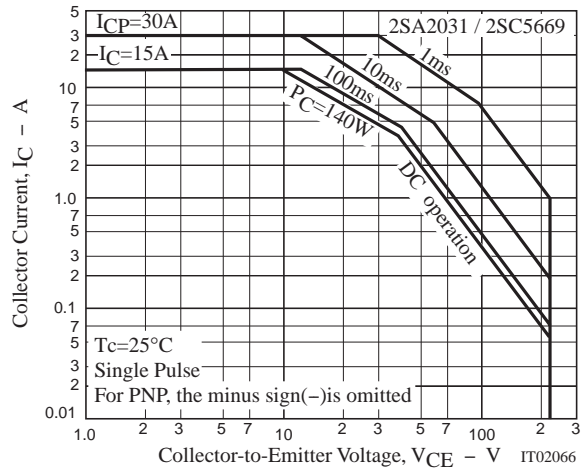
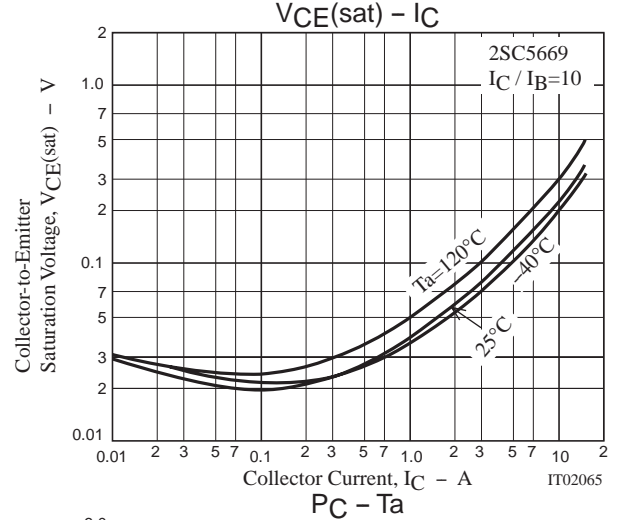
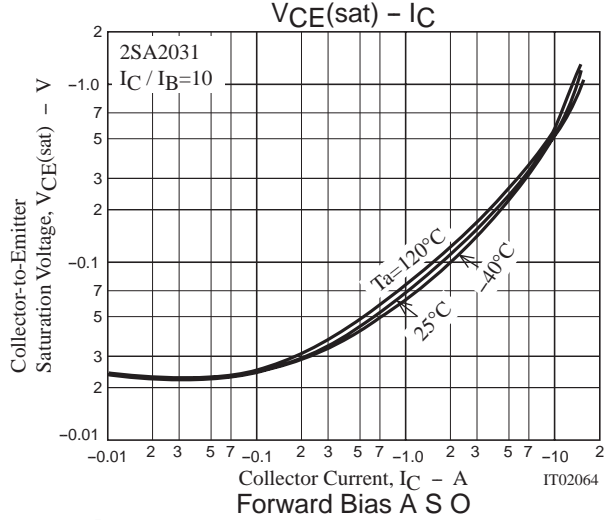
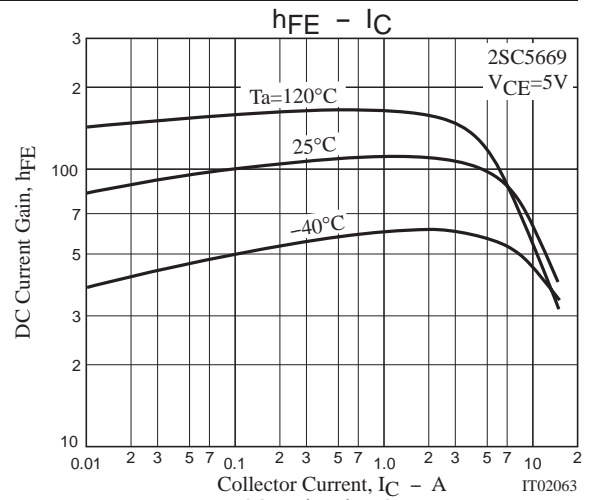
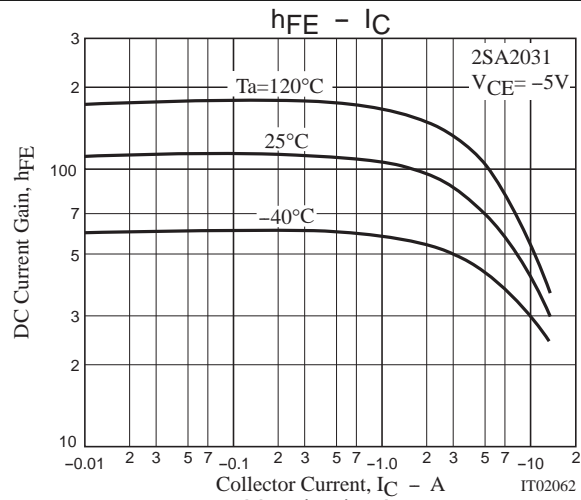
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	$f_T$	$V_{CE}=(-)5V, I_C=(-)1A$		(10)15		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=(-)10V, f=1MHz$		(400)200		pF
Base-to-Emitter Voltage	$V_{BE}$	$V_{CE}=(-)5V, I_C=(-)7.5A$			1.5	V
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)7.5A, I_B=(-)0.75A$		(-0.3)0.2	(-)2.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)5mA, I_E=0$	(-)250			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)50mA, R_{BE}=\infty$	(-)230			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)5mA, I_C=0$	(-)6			V
Turn-On Time	$t_{on}$	See specified test circuit.		(0.45)0.56		$\mu s$
Storage Time	$t_{stg}$	See specified test circuit.		(1.75)3.3		$\mu s$
Fall Time	$t_f$	See specified test circuit.		(0.25)0.4		$\mu s$

### Swicthing Time Test Circuit



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