

**Silicon NPN Power Transistors**

**2SD1065**

**DESCRIPTION**

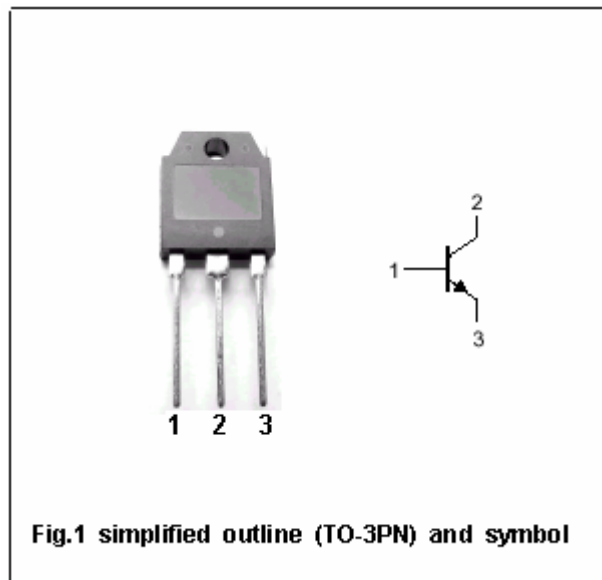
- With TO-3PN package
- Complement to type 2SB829
- Wide area of safe operation
- Low collector saturation voltage

**APPLICATIONS**

- Relay drivers,
- High-speed inverters,
- Converters,
- General high-current switching applications

**PINNING**

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter



**Absolute maximum ratings(Tc=25°C)**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-base voltage	Open emitter	60	V
V <sub>CEO</sub>	Collector-emitter voltage	Open base	50	V
V <sub>EBO</sub>	Emitter-base voltage	Open collector	6	V
I <sub>C</sub>	Collector current (DC)		15	A
I <sub>CM</sub>	Collector current -peak		20	A
P <sub>C</sub>	Collector power dissipation	T <sub>C</sub> =25°C	90	W
T <sub>j</sub>	Junction temperature		150	°C
T <sub>stg</sub>	Storage temperature		-55~150	°C

## Silicon NPN Power Transistors

## 2SD1065

## CHARACTERISTICS

www.datasheet4u.com

 $T_j=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C=1\text{mA}; R_{BE}=\infty$	50			V
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C=1\text{mA}; I_E=0$	60			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E=1\text{mA}; I_C=0$	6			V
$V_{CEsat}$	Collector-emitter saturation voltage	$I_C=8\text{A}; I_B=0.4\text{A}$		0.18	0.4	V
$I_{CBO}$	Collector cut-off current	$V_{CB}=40\text{V}; I_E=0$			0.1	mA
$I_{EBO}$	Emitter cut-off current	$V_{EB}=4\text{V}; I_C=0$			0.1	mA
$h_{FE-1}$	DC current gain	$I_C=1\text{A}; V_{CE}=2\text{V}$	70		280	
$h_{FE-2}$	DC current gain	$I_C=8\text{A}; V_{CE}=2\text{V}$	30			
$f_T$	Transition frequency	$I_C=1\text{A}; V_{CE}=5\text{V}$		20		MHz

## Switching times

$t_{on}$	Turn-on time	$I_C=2.0\text{A}; I_{B1}=-I_{B2}=0.2\text{A}$ $V_{CC}=20\text{V}; R_L=10\Omega$		0.20		$\mu\text{s}$
$t_{stg}$	Storage time			0.10		$\mu\text{s}$
$t_f$	Fall time			1.00		$\mu\text{s}$

◆  $h_{FE-1}$  Classifications

Q	R	S
70-140	100-200	140-280



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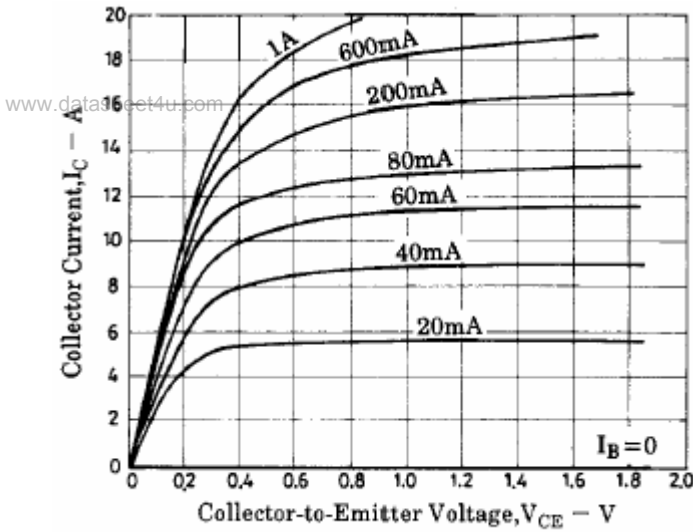


Fig.3 Static Characteristic

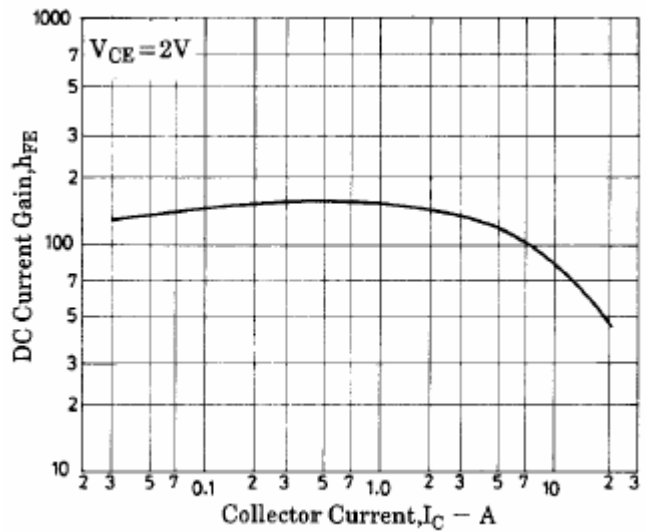


Fig.4 DC current Gain

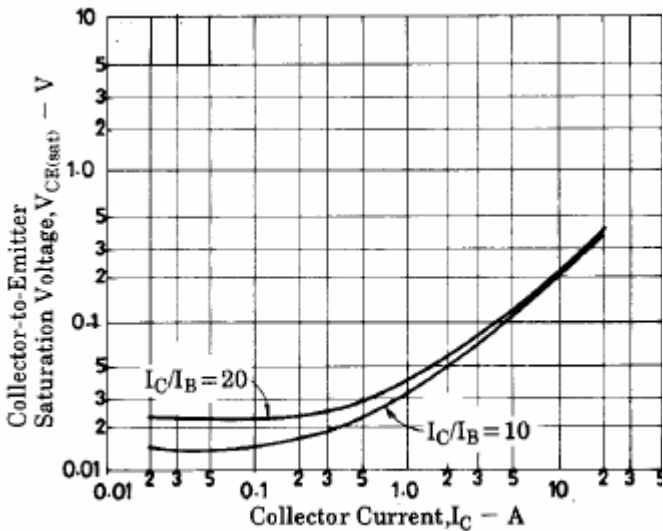


Fig.5 Collector-Emmitter Saturation Voltage

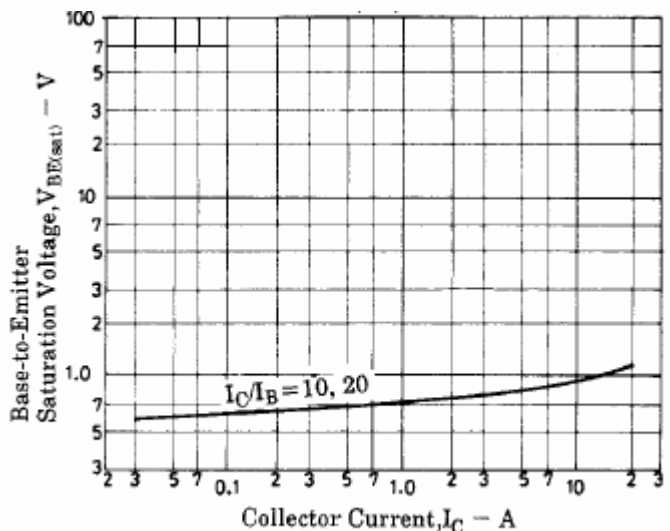


Fig.6 Base-Emmitter Saturation Voltage

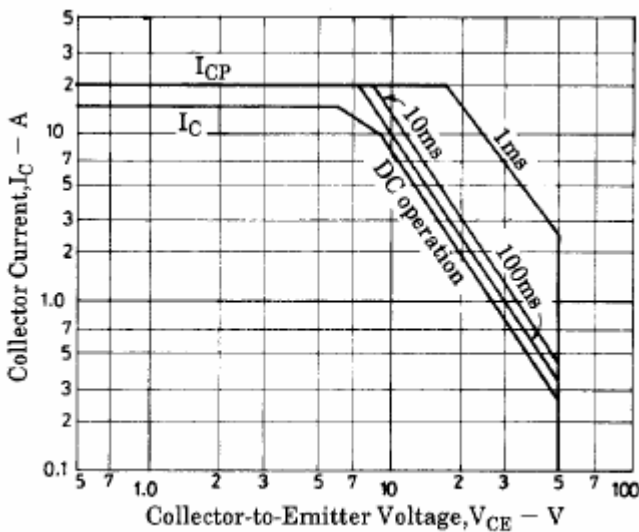


Fig.7 Safe Operating Area