NPN Epitaxial Planar Silicon Transistor



2SD2028

# **Low-Frequency Power Amplifier Applications**

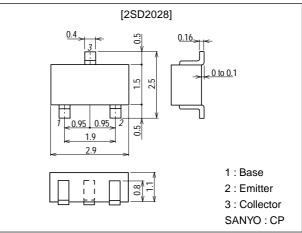
## Features

- $\cdot$  With Zener diode (11±3V) between collector and base.
- · Large current capacity.
- · Low collector-to-emitter saturation voltage.
- · Ultrasmall-sized package permitting the 2SD2028applied sets to be made small and slim.

# **Package Dimensions**

## unit:mm

#### 2018B



# Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V <sub>CBO</sub>	With Zener diode (11±3V)	8	V
Collector-to-Emitter Voltage	VCEO	With Zener diode (11±3V)	8	V
Emitter-to-Base Voltage	VEBO		5	V
Collector Current	ι <sub>C</sub>		0.7	A
Collector Current (Pulse)	I <sub>CP</sub>		1.5	A
Collector Dissipation	PC		200	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

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

Parameter	Symbol	Conditions	Ratings			Unit
	Symbol		min	typ	max	Onit
Collector Cutoff Current	ICBO	V <sub>CB</sub> =6V, I <sub>E</sub> =0			100	nA
Emitter Cutoff Current	IEBO	V <sub>EB</sub> =4V, I <sub>C</sub> =0			100	nA
DC Current Gain	h <sub>FE</sub> 1	V <sub>CE</sub> =2V, I <sub>C</sub> =50mA	200*		900*	
	h <sub>FE</sub> 2	V <sub>CE</sub> =2V, I <sub>C</sub> =500mA	100			
Gain-Bandwidth Product	fT	V <sub>CE</sub> =2V, I <sub>C</sub> =50mA		200		MHz
Output Capacitance	Cob	V <sub>CB</sub> =5V, f=1MHz		12		pF
* : The 2SD2028 is classified by 50mA here as follows : Loss of the loss - 7 and the of the second				Continued on next page.		

200 6 400 300 600 450 8 900 (Note) Marking : LT

h<sub>FE</sub> rank : 6, 7, 8

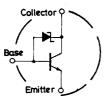
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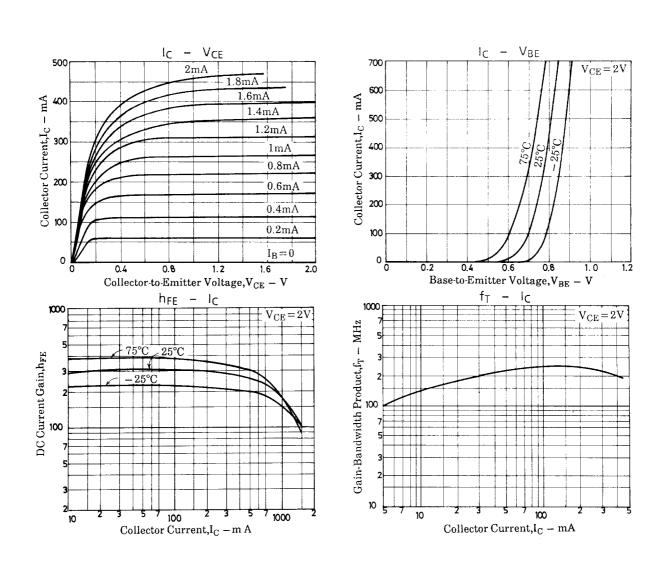
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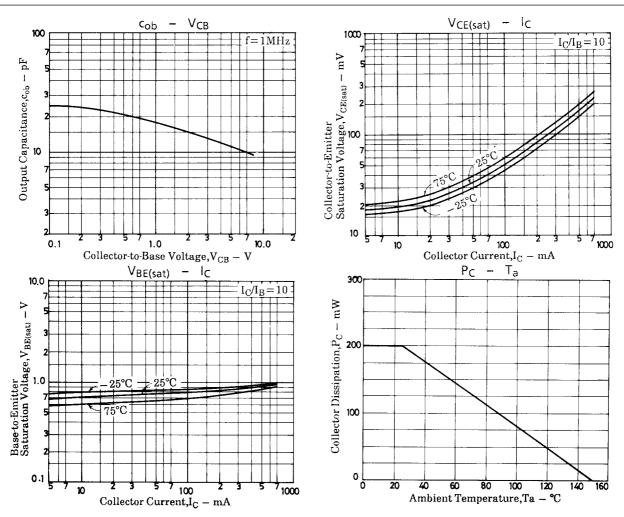
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Parameter	Symbol	Conditions	Ratings			Unit
	Symbol		min	typ	max	Unit
Collector-to-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA		50	120	mV
Base-to-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA		0.8	1.2	V
Collector-to-Base Breakdown Voltage	V <sub>(BR)</sub> CBO	I <sub>C</sub> =100μA, I <sub>E</sub> =0	8	11	14	V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I <sub>C</sub> =100µA, R <sub>BE</sub> =∞	8	11	14	V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	I <sub>E</sub> =10μA, I <sub>C</sub> =0	5			V

## **Electrical Connection**







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