



Low-Frequency Power Amplifier Applications

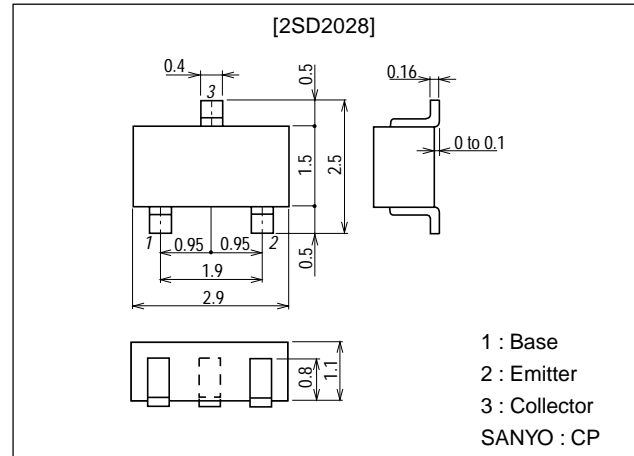
Features

- With Zener diode ($11\pm 3V$) between collector and base.
- Large current capacity.
- Low collector-to-emitter saturation voltage.
- Ultrasmall-sized package permitting the 2SD2028-applied sets to be made small and slim.

Package Dimensions

unit:mm

2018B



Specifications

Absolute Maximum Ratings at $T_a = 25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}	With Zener diode ($11\pm 3V$)	8	V
Collector-to-Emitter Voltage	V_{CE0}	With Zener diode ($11\pm 3V$)	8	V
Emitter-to-Base Voltage	V_{EBO}		5	V
Collector Current	I_C		0.7	A
Collector Current (Pulse)	I_{CP}		1.5	A
Collector Dissipation	P_C		200	mW
Junction Temperature	T_j		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=6V, I_E=0$			100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4V, I_C=0$			100	nA
DC Current Gain	h_{FE1}	$V_{CE}=2V, I_C=50mA$	200*		900*	
	h_{FE2}	$V_{CE}=2V, I_C=500mA$	100			
Gain-Bandwidth Product	f_T	$V_{CE}=2V, I_C=50mA$		200		MHz
Output Capacitance	C_{ob}	$V_{CB}=5V, f=1MHz$		12		pF

* : The 2SD2028 is classified by 50mA h_{FE} as follows :
 (Note) Marking : LT

h_{FE} rank : 6, 7, 8

200	6	400	300	7	600	450	8	900
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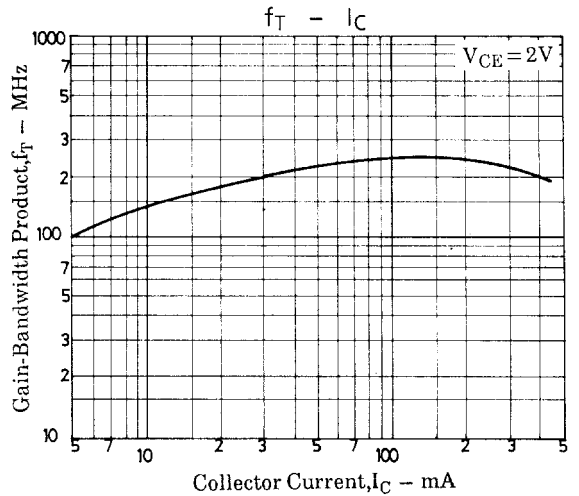
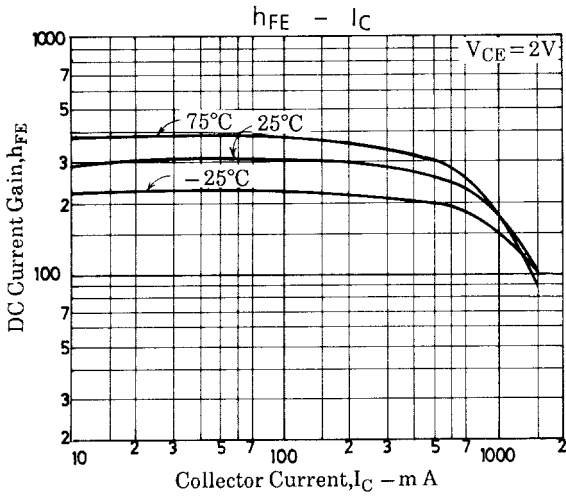
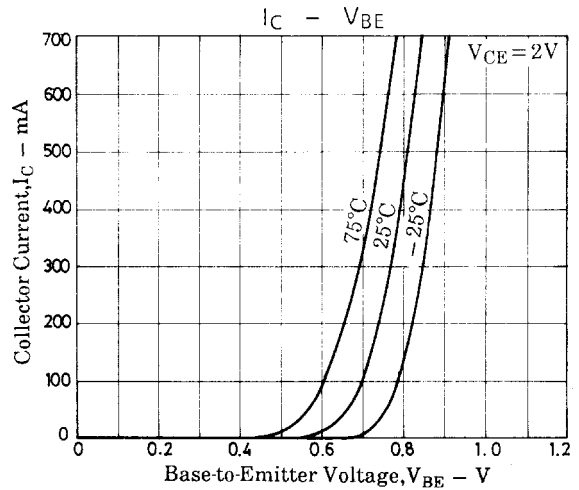
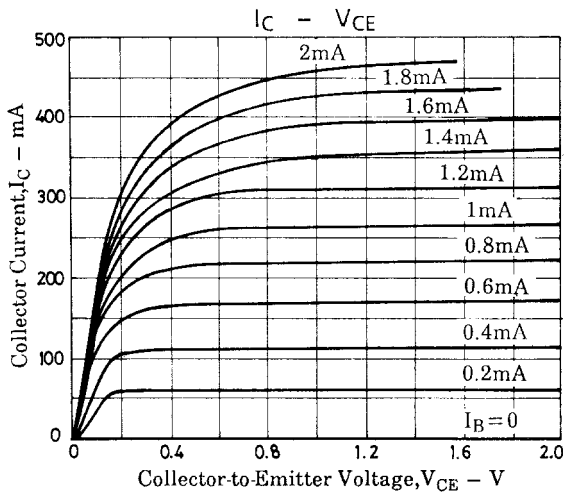
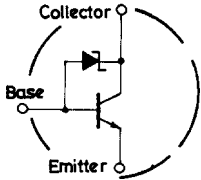
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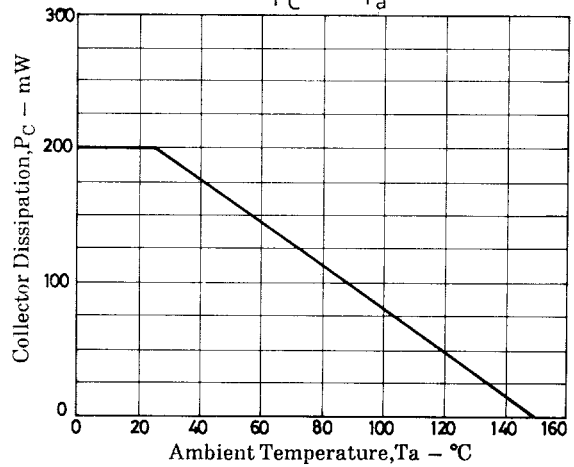
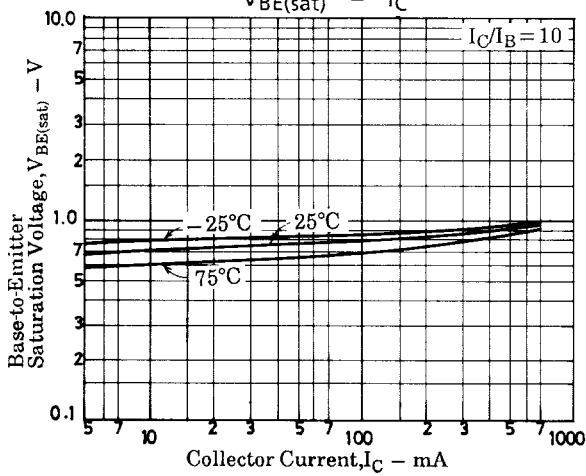
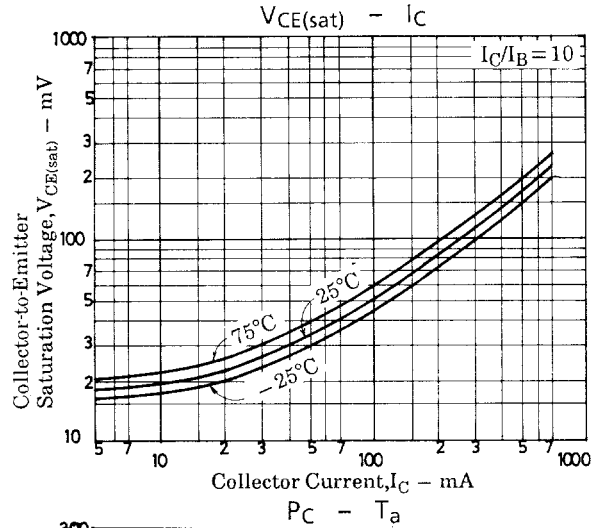
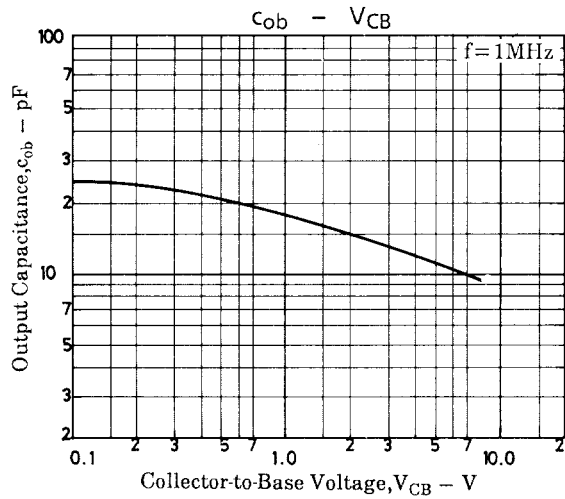
2SD2028

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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=10mA$		50	120	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=10mA$		0.8	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	8	11	14	V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=100\mu A, R_{BE}=\infty$	8	11	14	V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	5			V

Electrical Connection





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