

2SB631,631K/2SD600,600K

100V/120V, 1A Low-Frequency Power Amplifier Applications

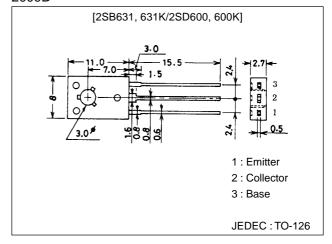
Features

- High breakdown voltage V_{CEO} 100/120V, High current 1A.
- \cdot Low saturation voltage, excellent $h_{\mbox{\scriptsize FE}}$ linearity.

Package Dimensions

unit:mm

2009B



(): 2SB631, 631K

Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	2SB631, D600	2SB631K, D600K	Unit	
Collector-to-Base Voltage	V _{CBO}		(–)100	(–)120	V	
Collector-to-Emitter Voltage	V _{CEO}		(–)100	(–)120	V	
Emitter-to-Base Voltage	V _{EBO}			V		
Collector Current	IC			(–)1		
Collector Current (Pulse)	I _{CP}			Α		
Collector Dissipation	PC			W		
		Tc=25°C		8	W	
Junction Temperature	Tj			150		
Storage Temperature	Tstg			-55 to +150		

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Symbol Conditions		Ratings			Unit
Faianielei	Symbol		min	typ	max		
Collector-to-Base Breakdown Voltage	V _(BR) CBO	I _C =(-)10μΑ, I _E =0	B631, D600	(-)100			V
			B631K, D600K	(-)120			V
Collector-to-Emitter Brakdown Voltage	V _(BR) CEO	I _C =(-)1mA, R _{BE} =∞	B631, D600	(-)100			V
			B631K, D600K	(-)120			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	I _E =(-)10μΑ, I _C =0		(–)5			V
Collector Cutoff Current	ICBO	V _{CB} =(-)50V, I _E =0				(-)1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)4V, I _C =0				(-)1	μA

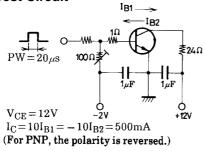
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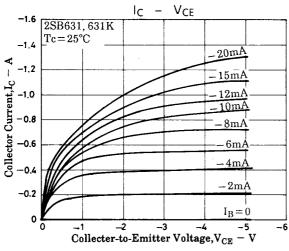
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
DC Current Gain	h _{FE} 1	V _{CE} =(-)5V, I _C =(-)50mA	60*		320*	
	h _{FE} 2	V _{CE} =(-)5V, I _C =(-)500mA	20			
Gain-Bandwidth Product	f _T	V _{CE} =(-)10V, I _C =(-)50mA		(110)		MHz
				130		MHz
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		(30)20		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)500mA, I _B =(-)50mA		(–)0.15	(-)0.4	V
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =(-)500mA, I _B =(-)50mA		(-)0.85	(–)1.2	V
Fall Time	t _f	See specified Test Circuit		(80)		ns
				100		ns
Turn-OFF Time	t _{off}	See specified Test Circuit		(100)		ns
				500		ns
Storage Time	t _{stg}	See specified Test Circuit		(600)		ns
				700		ns

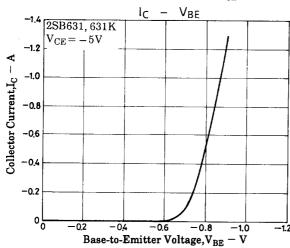
 $[\]ast$: The 2SB631/2SD600 are classified by 50mA h_{FE} as follows :

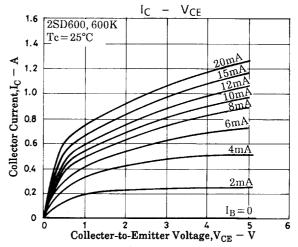
60 D 120 100 E 200 160 F 320	60 D 120	100 E 200	160 F 320
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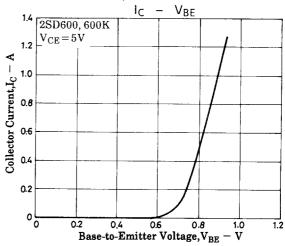
Switching Time Test Circuit



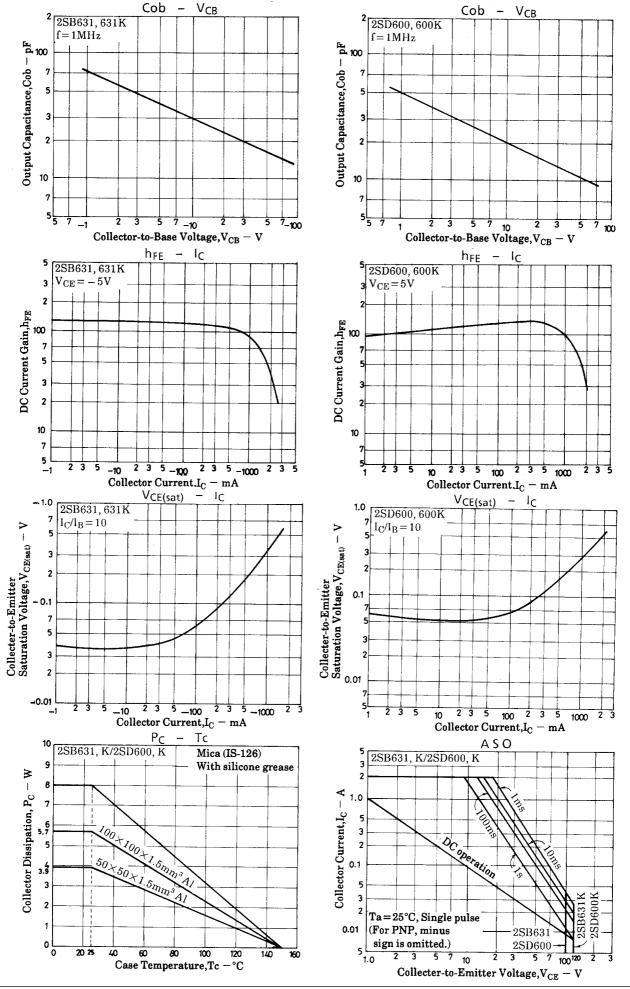


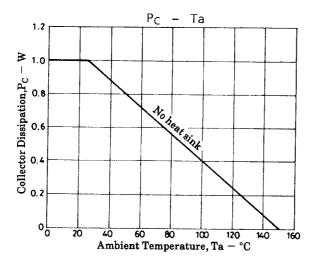






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