

SANYO

No.346G

2SB631,631K/2SD600,600K

PNP/NPN Epitaxial Planar Silicon Transistors

**100V/120V, 1A Low-Frequency
Power Amp Applications****Features**

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

(): 2SB631, 631K

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

		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}		(-)5	V
Collector Current	I_C		(-)1	A
Collector Current (Pulse)	I_{CP}		(-)2	A
Collector Dissipation	P_C		1	W
			8	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150		$^\circ\text{C}$

 $T_c = 25^\circ\text{C}$ **Electrical Characteristics at $T_a = 25^\circ\text{C}$**

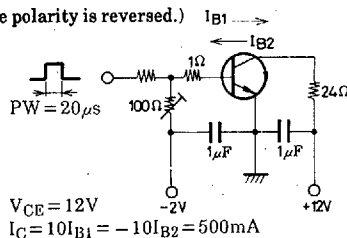
				min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu\text{A}, I_E = 0$	B631, D600	(-)100			V
			B631K, D600K	(-)120			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1\text{mA}, R_{BE} = \infty$	B631, D600	(-)100			V
			B631K, D600K	(-)120			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu\text{A}, I_C = 0$		(-)5			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)50\text{V}, I_E = 0$				(-)1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4\text{V}, I_C = 0$				(-)1	μA
DC Current Gain	$h_{FE}(1)$	$V_{CE} = (-)5\text{V}, I_C = (-)50\text{mA}$		60*		320*	
	$h_{FE}(2)$	$V_{CE} = (-)5\text{V}, I_C = (-)500\text{mA}$		20			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)10\text{V}, I_C = (-)50\text{mA}$		(110)130			MHz
Output Capacitance	C_{ob}	$V_{CB} = (-)10\text{V}, f = 1\text{MHz}$		(30)20			pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)500\text{mA}, I_B = (-)50\text{mA}$		(-)0.15(-)0.4			V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C = (-)500\text{mA}, I_B = (-)50\text{mA}$		(-)0.85(-)1.2			V
Fall Time	t_f	See specified Test Circuit.		(80)100			ns
Turn-OFF Time	t_{off}	"		(100)500			ns
Storage Time	t_{stg}	"		(600)700			ns

* : The 2SB631/2SD600 are classified by 50mA h_{FE} as follows.

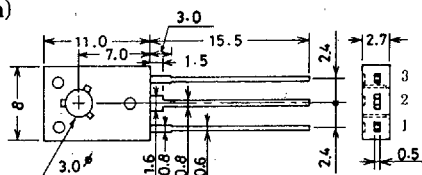
60	D	120	100	E	200	160	F	320
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Switching Time Test Circuit

(For PNP, the polarity is reversed.)

**Package Dimensions 2009B**

(unit : mm)



JEDEC: TO-126

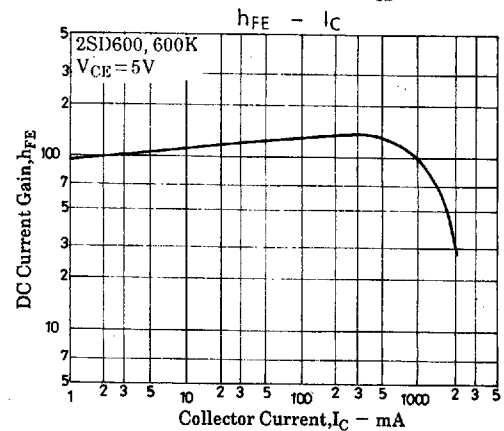
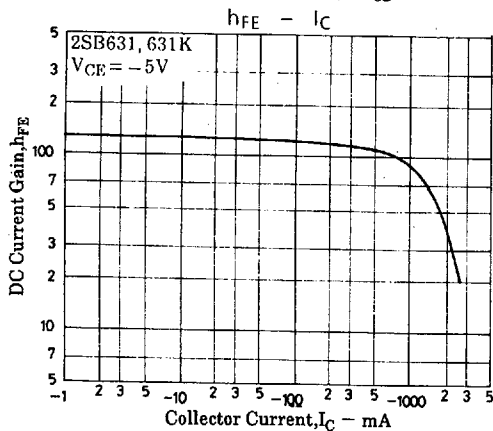
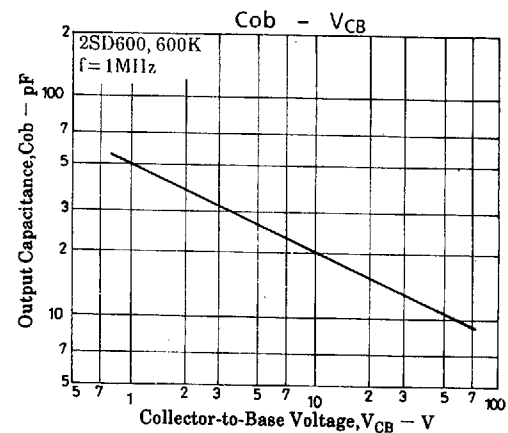
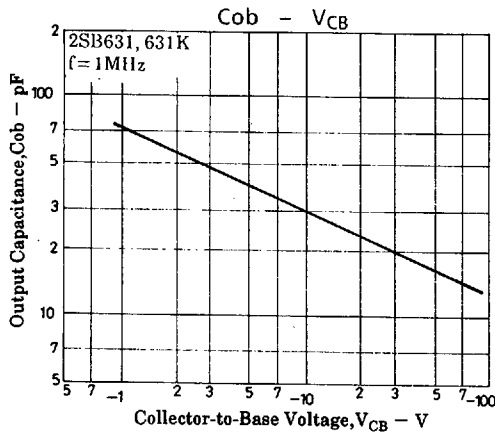
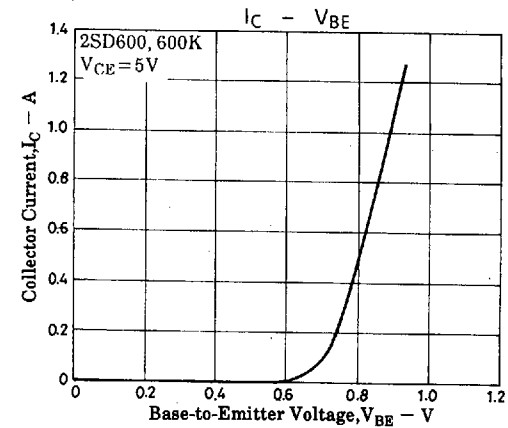
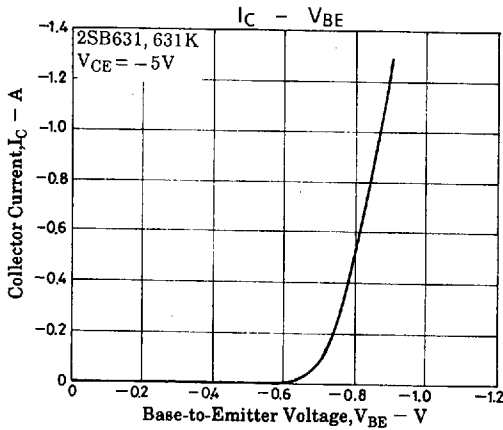
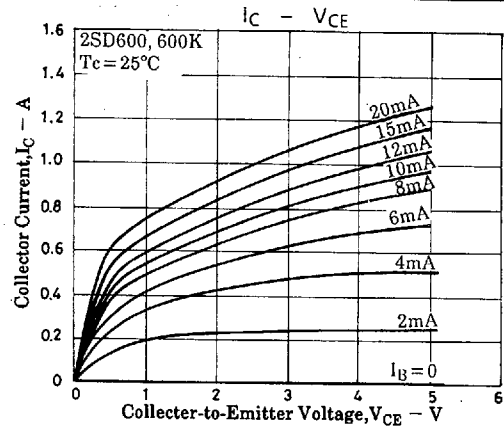
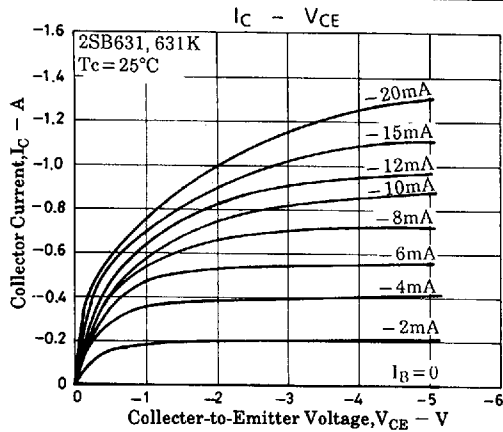
1: Emitter
2: Collector
3: Base

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