

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 $T_a = 25^\circ C$		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
		$T_c = 25^\circ C$	8	W
Junction Temperature	T_j		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

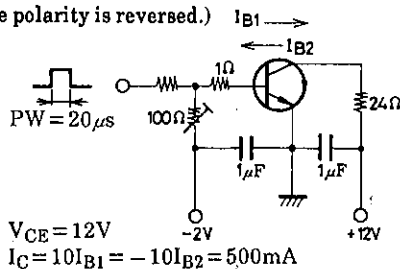
Electrical Characteristics at $T_a = 25^\circ C$			min	typ	max	unit
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)10\mu A, I_E = 0$	B631, D600 (-)100			V
			B631K, D600K (-)120			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	B631, D600 (-)100			V
			B631K, D600K (-)120			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)10\mu A, I_C = 0$		(-)5		V
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)50V, I_E = 0$			(-)1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4V, I_C = 0$			(-)1	μA
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)130			MHz
Output Capacitance	C_{ob}	$V_{CB} = (-)10V, f = 1MHz$	(30)20			pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)500mA, I_B = (-)50mA$	(-)0.15(-)0.4			V
B-E 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)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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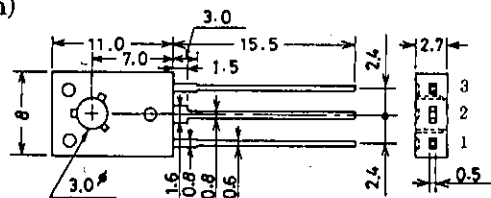
Switching Time Test Circuit

(For PNP, the polarity is reversed.)



Package Dimensions 2009B

(unit : mm)



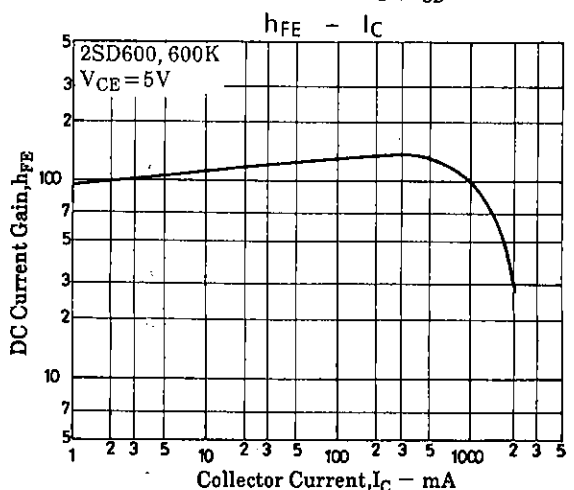
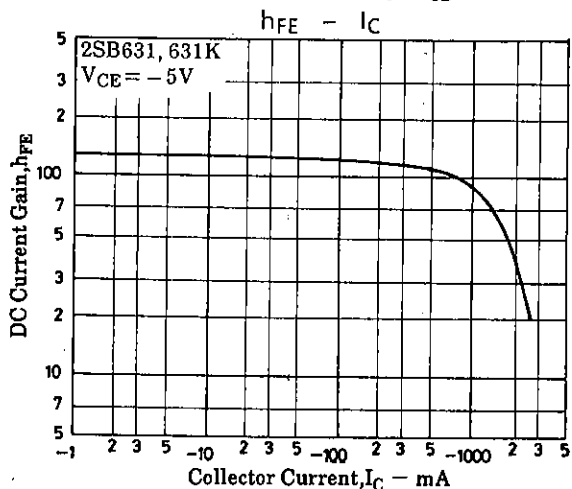
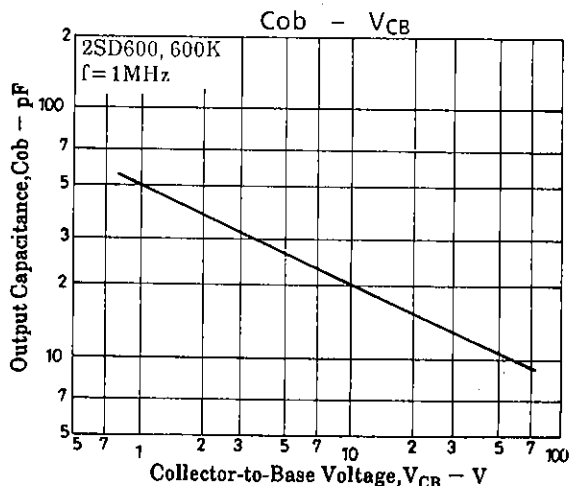
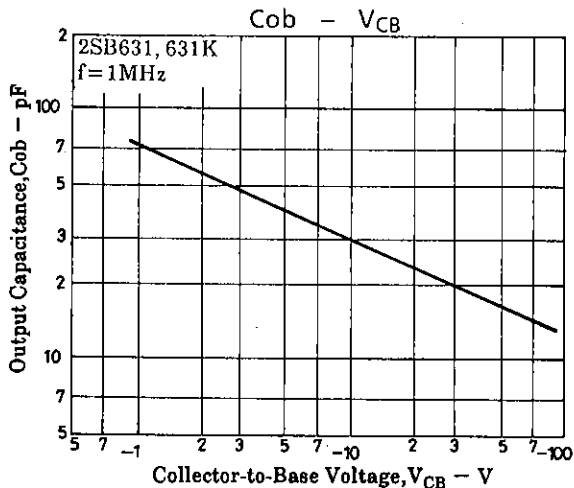
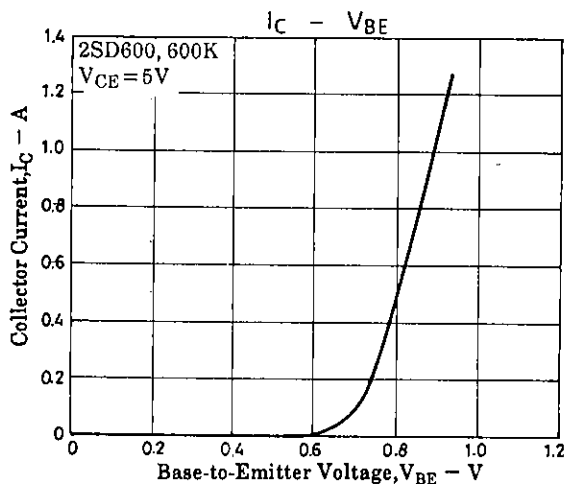
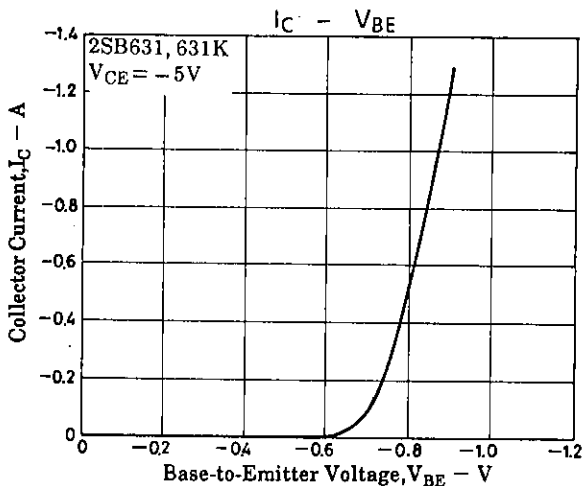
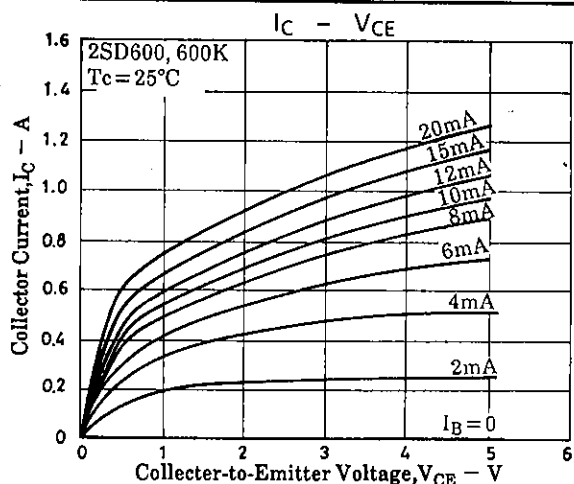
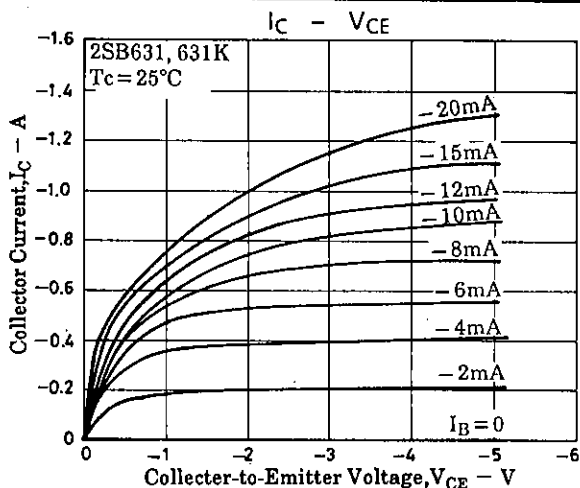
JEDEC: TO-18

- 1 : Emitter
- 2 : Collector
- 3 : Base

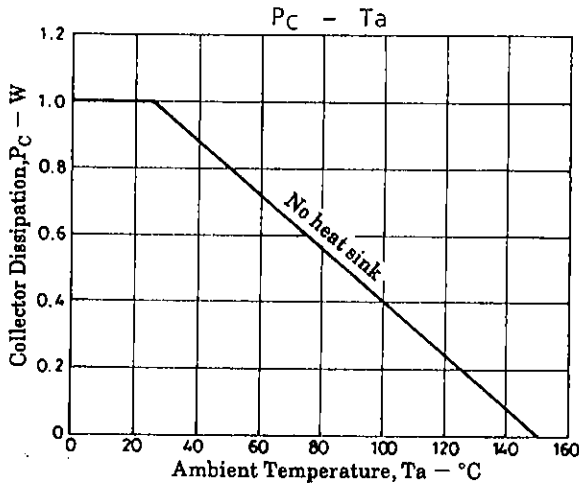
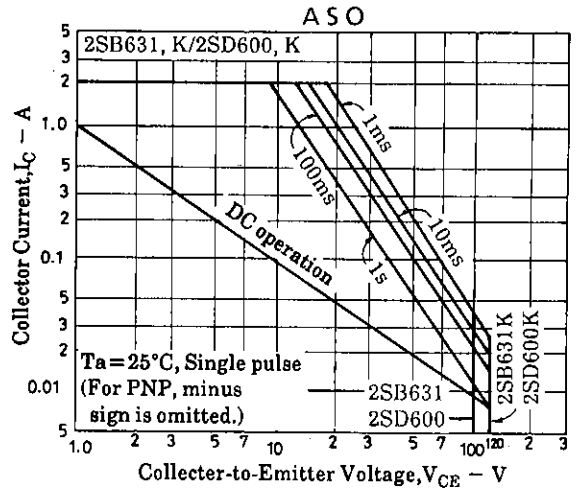
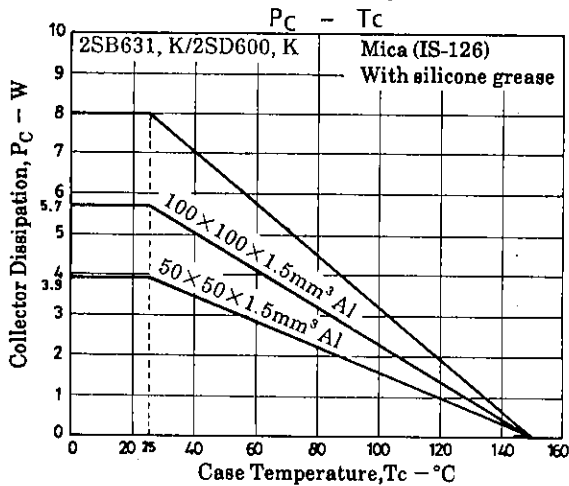
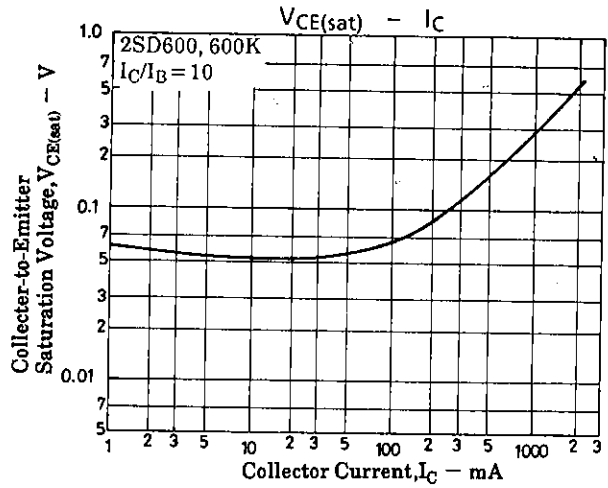
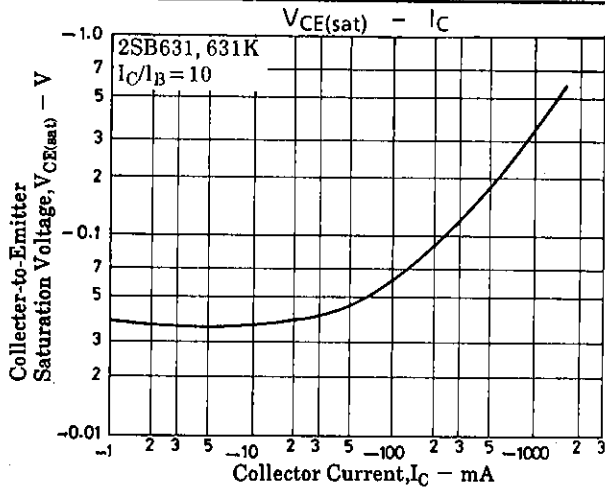
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