



2SB631,631K/2SD600,600K

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

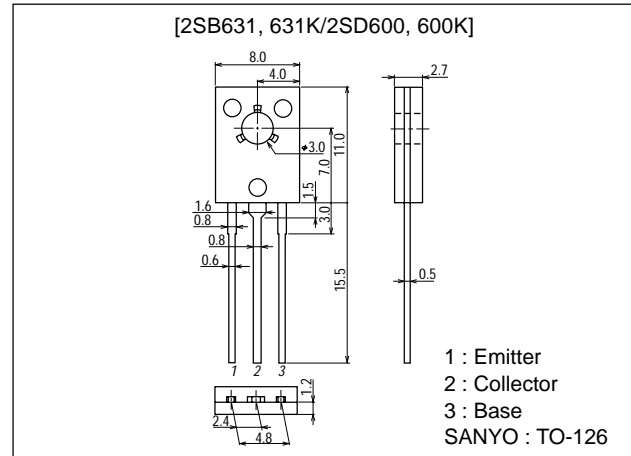
Features

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

Package Dimensions

unit:mm

2009B



() : 2SB631, 631K

Specifications

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

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}			(-)5	V
Collector Current	I_C			(-)1	A
Collector Current (Pulse)	I_{CP}			(-)2	A
Collector Dissipation	P_C			1	W
		$T_c=25^\circ\text{C}$		8	W
Junction Temperature	T_J			150	$^\circ\text{C}$
Storage Temperature	T_{stg}			-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu\text{A}, I_E=0$	B631, D600	(-)100		V
			B631K, D600K	(-)120		V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1\text{mA}, R_{BE}=\infty$	B631, D600	(-)100		V
			B631K, D600K	(-)120		V
Emitter-to-Base 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

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■ SANYO assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all SANYO products described or contained herein.

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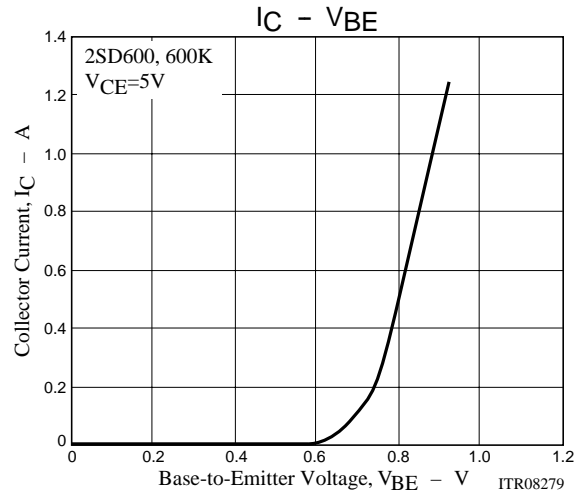
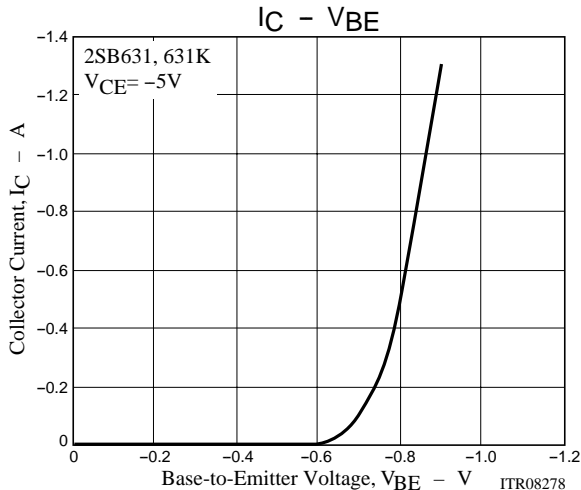
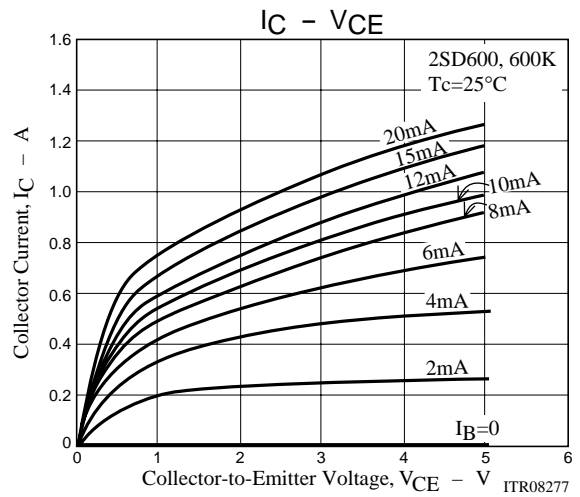
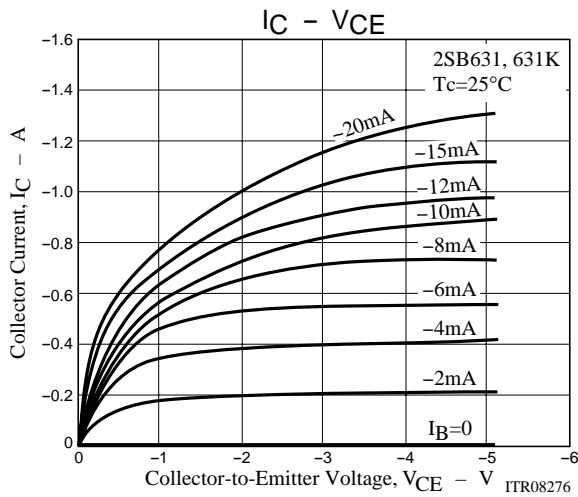
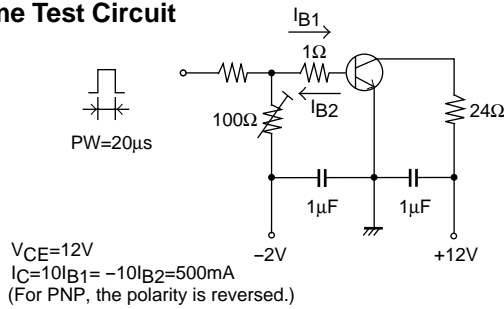
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	h_{FE1}	$V_{CE}=(-)5V, I_C=(-)50mA$	60*		320*	
	h_{FE2}	$V_{CE}=(-)5V, I_C=(-)500mA$	20			
Gain-Bandwidth Product	f_T	$V_{CE}=(-)10V, I_C=(-)50mA$		(110) 130		MHz MHz
Output 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

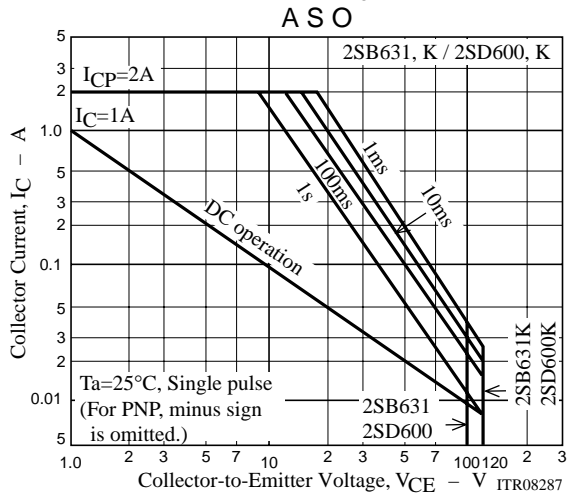
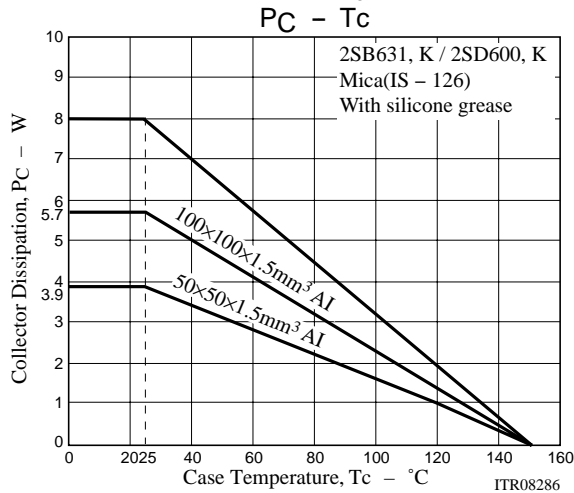
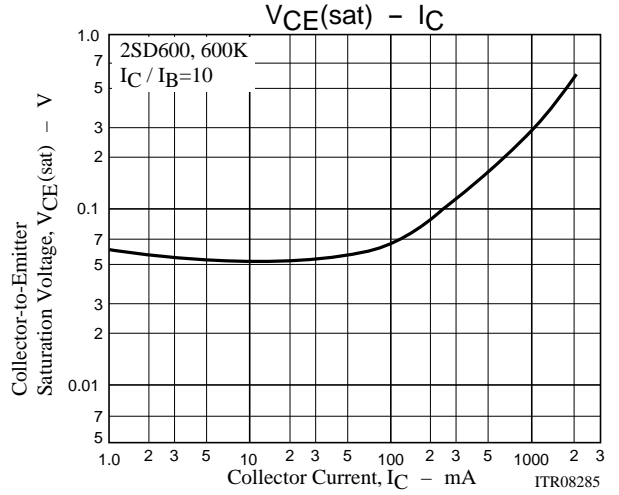
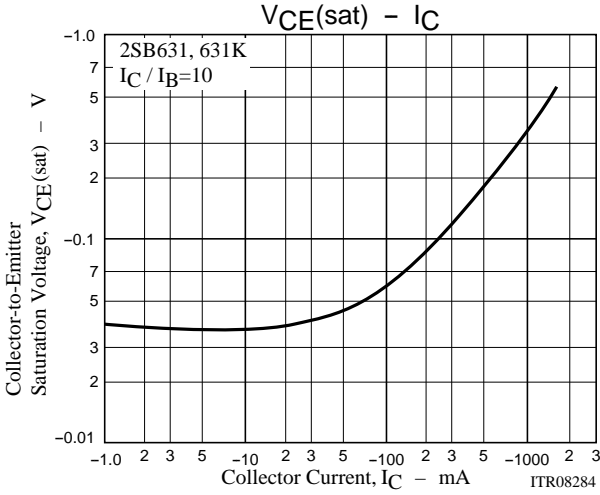
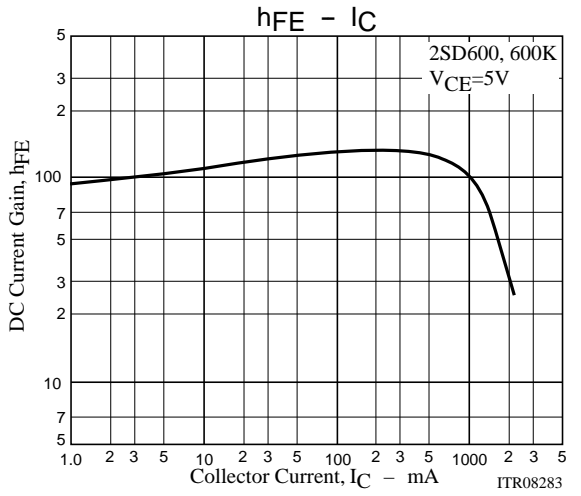
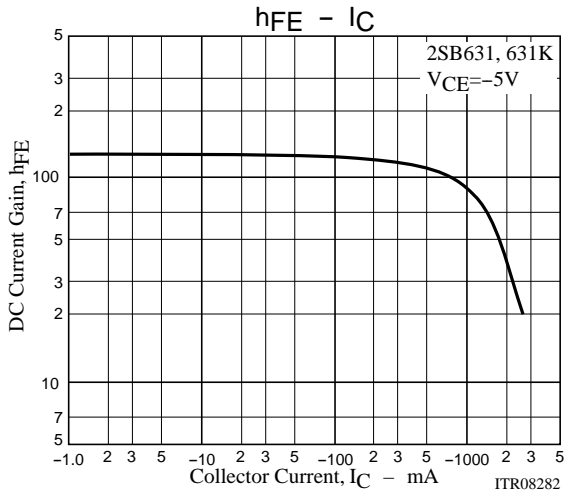
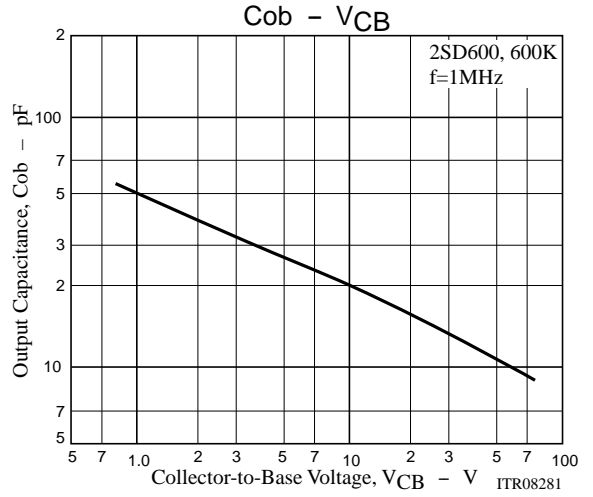
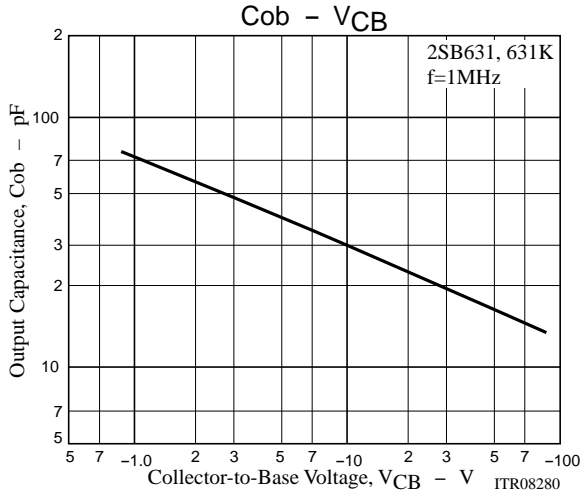
* : The 2SB631/2SD600 are classified by 50mA h_{FE} as follows :

Rank	D	E	F
h_{FE}	60 to 120	100 to 200	160 to 320

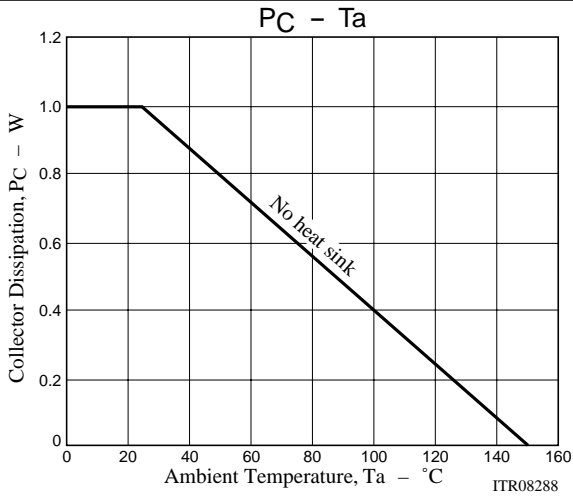
Switching Time Test Circuit



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