



2SB633/2SD613

85V/6A, AF 25 to 35W Output Applications

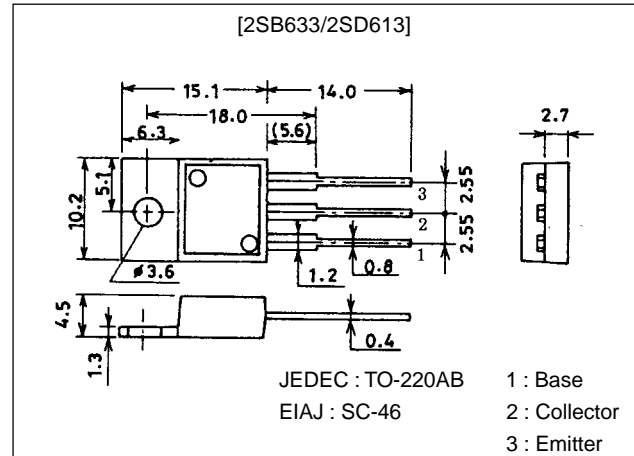
Features

- High breakdown voltage, $V_{CE0}85V$, high current 6A.
- AF25 to 35W output.

Package Dimensions

unit:mm

2010C



() : 2SB633

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(-)100	V
Collector-to-Emitter Voltage	V_{CEO}		(-)85	V
Emitter-to-Base Voltage	V_{EBO}		(-)6	V
Collector Current	I_C		(-)6	A
Collector Current (Pulse)	I_{CP}		(-)10	A
Collector Dissipation	P_C	$T_c=25^\circ C$	40	W
Junction Temperature	T_J		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=(-)40V, I_E=0$			(-)0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=(-)4V, I_C=0$			(-)0.1	mA
DC Current Gain	h_{FE1}	$V_{CE}=(-)5V, I_C=(-)1A$	40*		320*	
	h_{FE2}	$V_{CE}=(-)5V, I_C=(-)3A$	20			
Gain-Bandwidth Product	f_T	$V_{CE}=(-)5V, I_C=(-)1A$		15		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)4A, I_B=(-)0.4A$			(-)2.0	V
Base-to-Emitter Voltage	V_{BE}	$I_E=(-)5A, I_C=(-)1A$			(-)1.5	V
Output Capacitance	C_{ob}	$V_{CB}=(-)10V, f=1MHz$		(150)		pF
				110		pF

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91098HA (KT)/90595MO (KOTO)/D251MH/4017KI/1115MW, TS/No.174, 8-2629 No.513-1/4

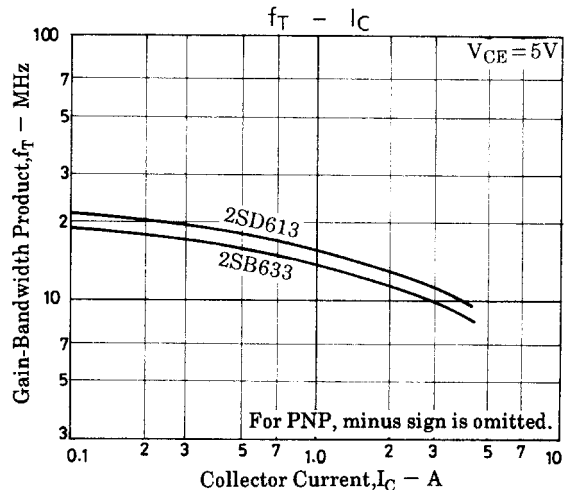
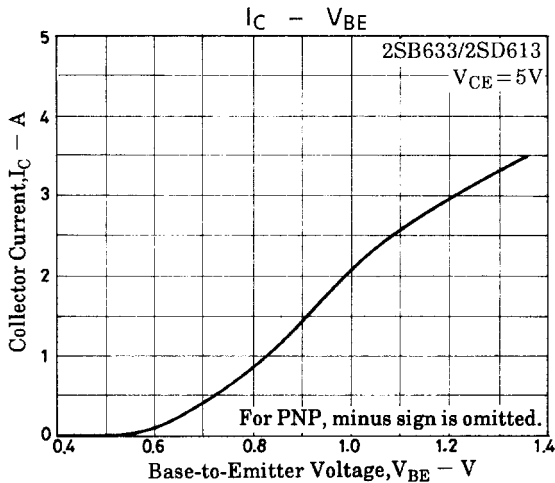
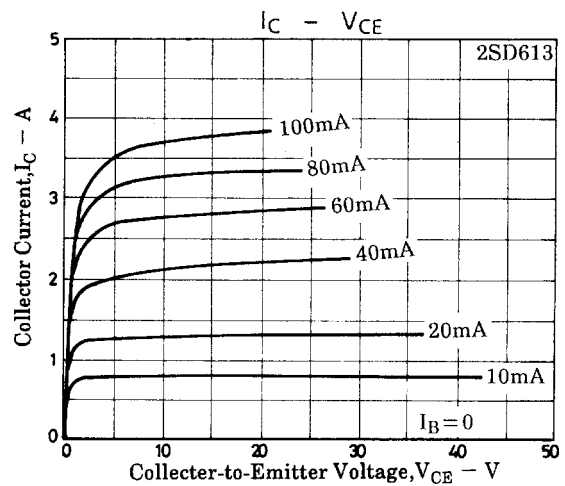
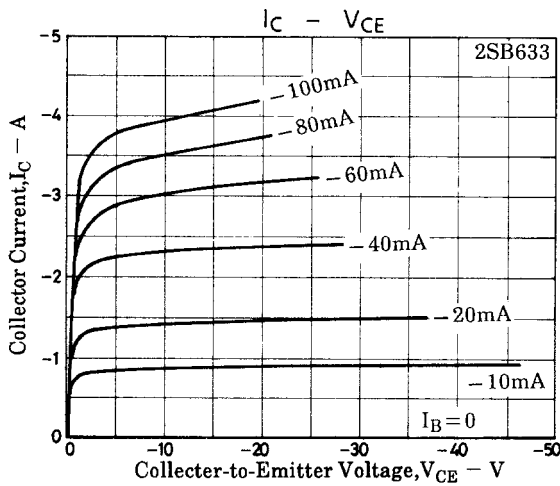
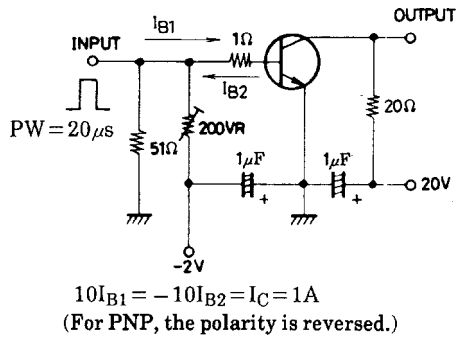
2SB633/2SD613

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)5mA, I_E = 0$	(-)100			V
Collector-to-Emitter Brakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)5mA, R_{BE} = \infty$	(-)85			V
	$V_{(BR)CEO}$	$I_C = (-)50mA, R_{BE} = \infty$	(-)85			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)5mA, I_C = 0$	(-)6			V
Turn-ON Time	t_{on}	See specified Test Circuit		(0.16)		μs
Fall Time	t_f	See specified Test Circuit		0.28		μs
				(0.33)		μs
Storage Time	t_{stg}	See specified Test Circuit		0.50		μs
				(1.45)		μs
				3.60		μs

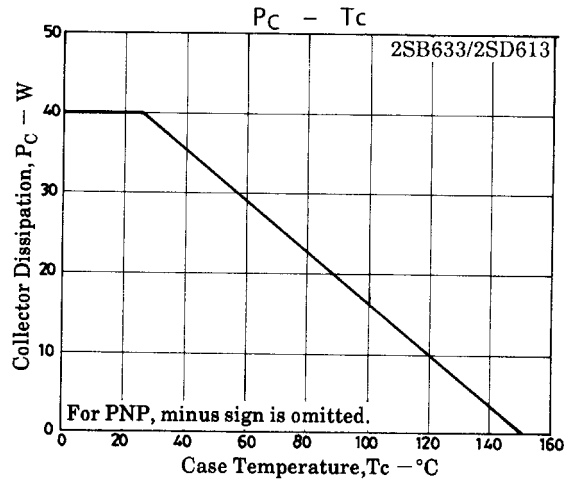
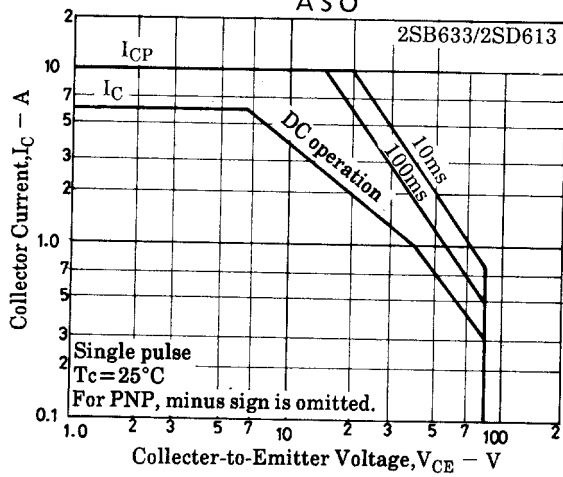
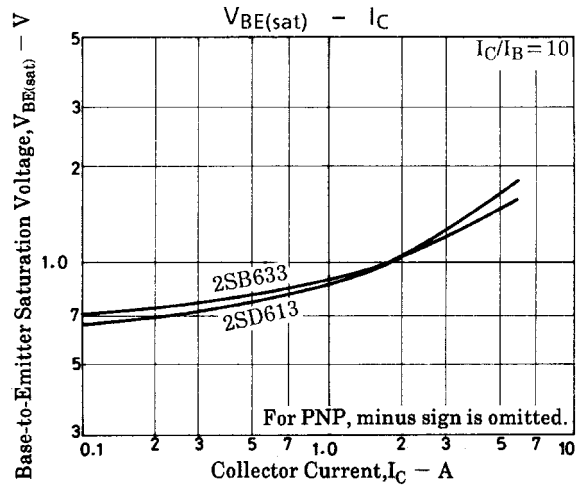
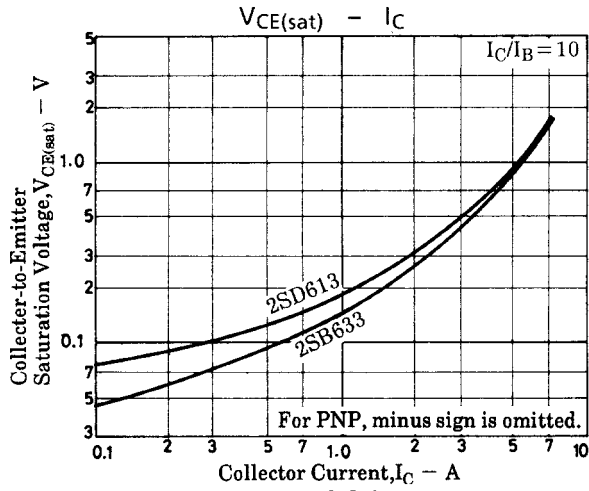
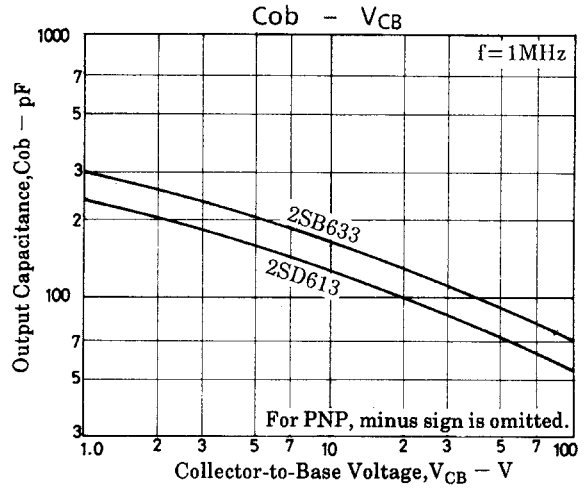
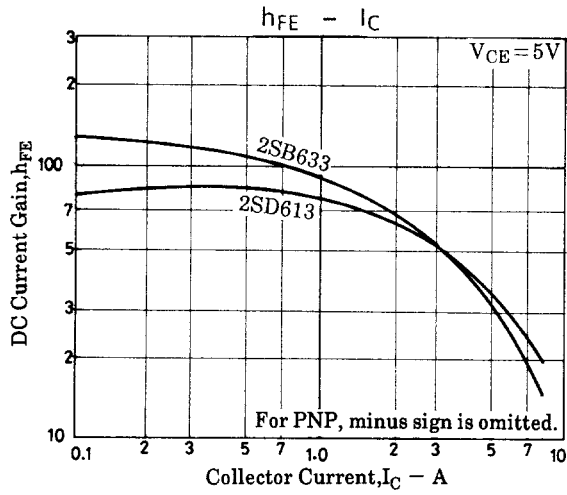
* : The 2SB633/2SD613 are classified by $1A h_{FE}$ as follows :

40	C	80	60	D	120	100	E	200	160	F	320
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Switching Time Test Circuit



2SB633/2SD613



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