



2SB633P / 2SD613P

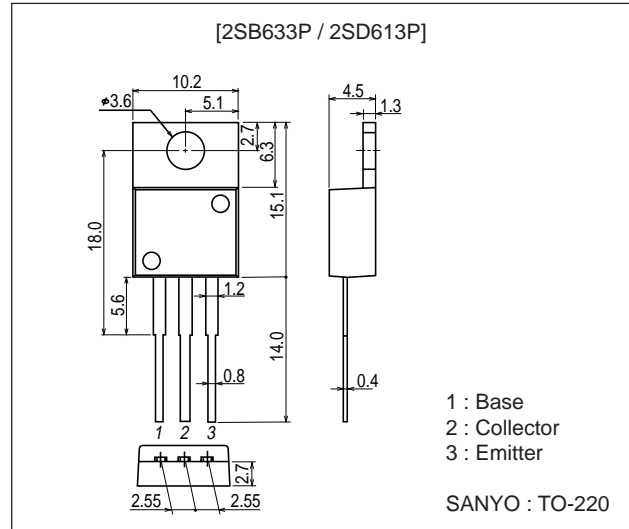
85V / 6A, AF 35 to 45W Output Applications

Features

- High breakdown voltage, V_{CEO} 85V, high current 6A.
- AF 35 to 45W output.

Package Dimensions

unit : mm
2010C



Specifications

() : 2SB633P

Absolute Maximum Ratings at T_a=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		(-)100	V
Collector-to-Emitter Voltage	V _{CEO}		(-)85	V
Emitter-to-Base Voltage	V _{EB0}		(-)6	V
Collector Current	I _C		(-)6	A
Collector Current (Pulse)	I _{CP}		(-)10	A
Collector Dissipation	P _C	T _c =25°C	60	W
Junction Temperature	T _j		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at T_a=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CB0}	V _{CB} =(-)40V, I _E =0			(-)0.1	mA
Emitter Cutoff Current	I _{EB0}	V _{EB} =(-)4V, I _C =0			(-)0.1	mA

Continued on next page.

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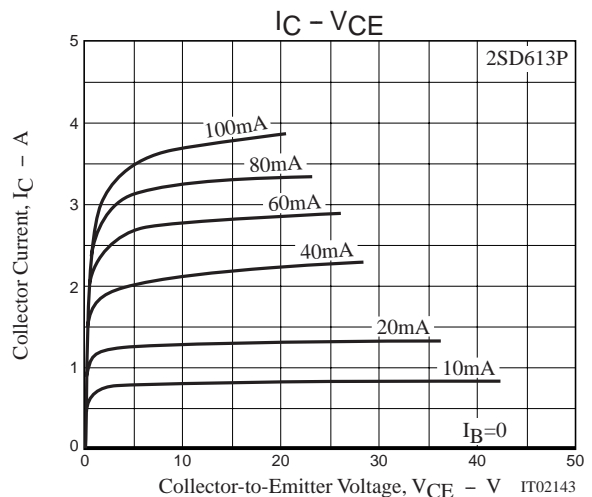
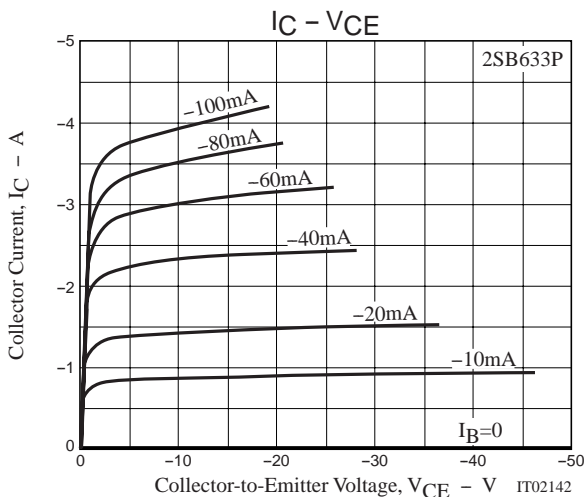
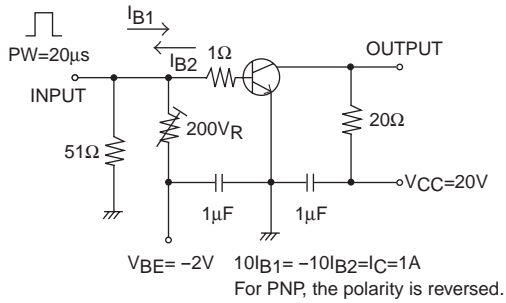
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
DC Current Gain	h_{FE1}	$V_{CE}=(-)5V, I_C=(-)1A$	40*		320*	
	h_{FE2}	$V_{CE}=(-)5V, I_C=(-)3A$	20			
Gain-Bandwidth Product	f_T	$V_{CE}=(-)5V, I_C=(-)1A$		15		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)10V, f=1MHz$		(150)110		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)4A, I_B=(-)0.4A$			(-)2.0	V
Base-to-Emitter Voltage	V_{BE}	$V_{CE}=(-)5V, I_C=(-)1A$			(-)1.5	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)5mA, I_E=0$	(-)100			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)5mA, R_{BE}=\infty$	(-)85			V
		$I_C=(-)50mA, R_{BE}=\infty$	(-)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)0.28		μs
Fall Time	t_f	See specified test circuit.		(0.33)0.50		μs
Storage Time	t_{stg}	See specified test circuit.		(1.45)3.60		μs

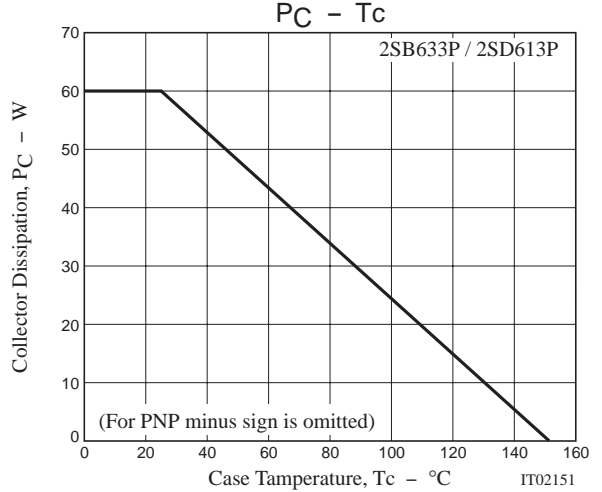
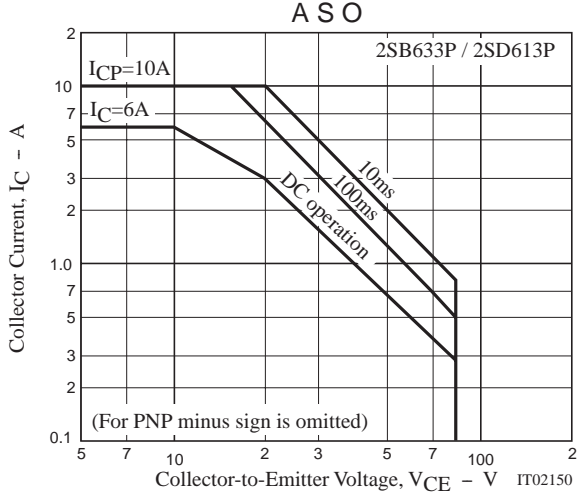
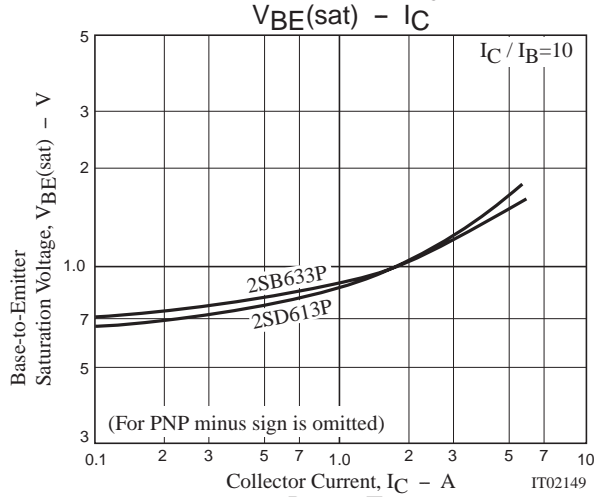
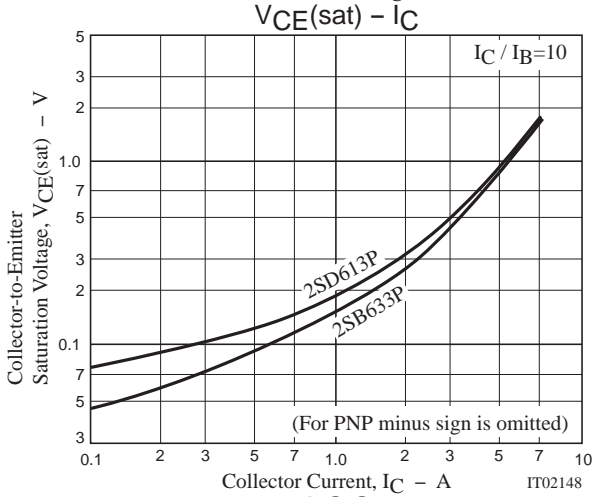
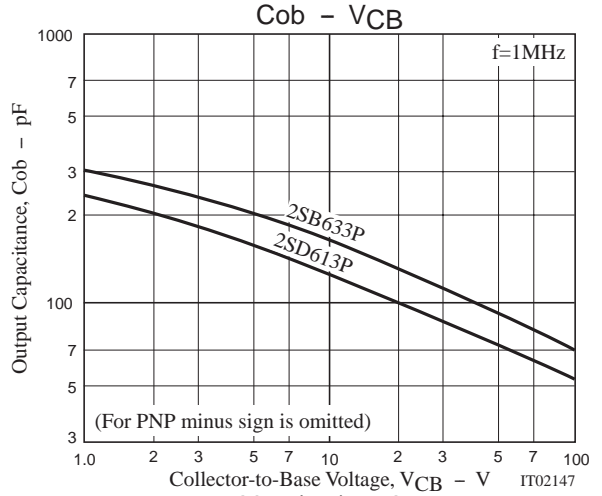
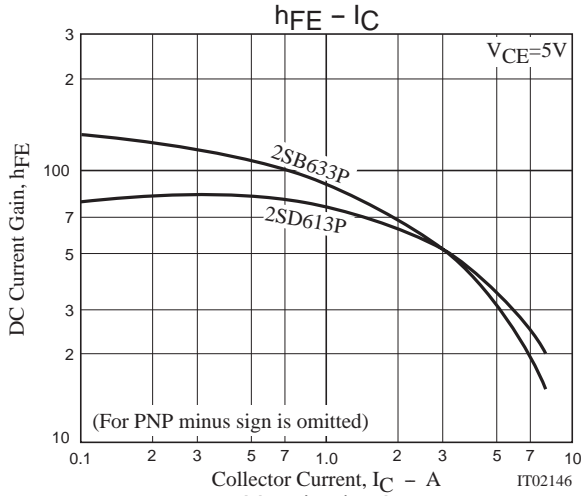
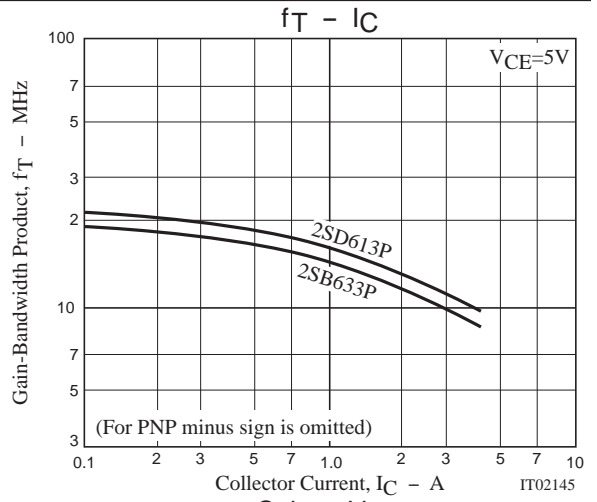
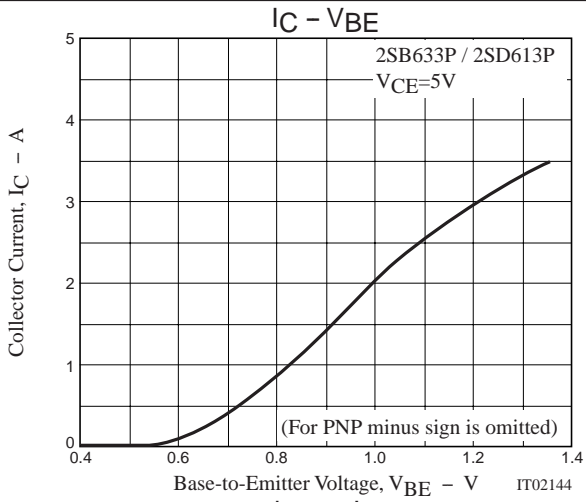
* : The 2SB633P / 2SD613P are classified by 1A h_{FE} as follows :

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

Swicthing Time Test Circuit



2SB633P/2SD613P



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