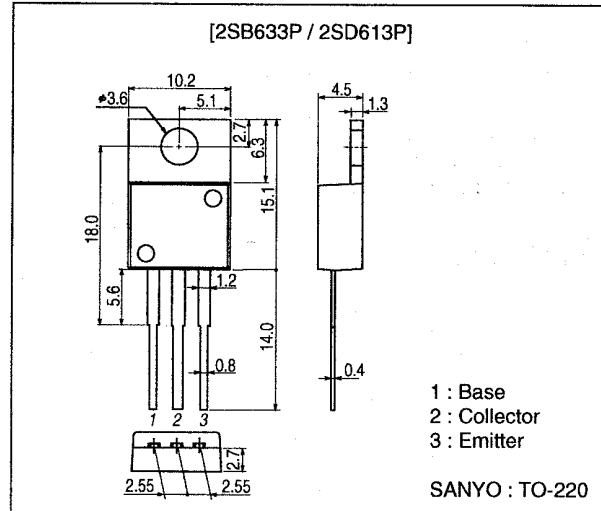


**SANYO****2SB633P / 2SD613P****85V / 6A, AF 35 to 45W Output Applications****Features**

- 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  $T_a=25^\circ\text{C}$ 

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	$P_C$	$T_c=25^\circ\text{C}$	60	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 Cutoff Current	$I_{CBO}$	$V_{CB}=(-)40\text{V}, I_E=0$			(-)0.1	mA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=(-)4\text{V}, I_C=0$			(-)0.1	mA

Continued on next page.

■ Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

■ 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.

**SANYO Electric Co., Ltd. Semiconductor Company**

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

## 2SB633P/2SD613P

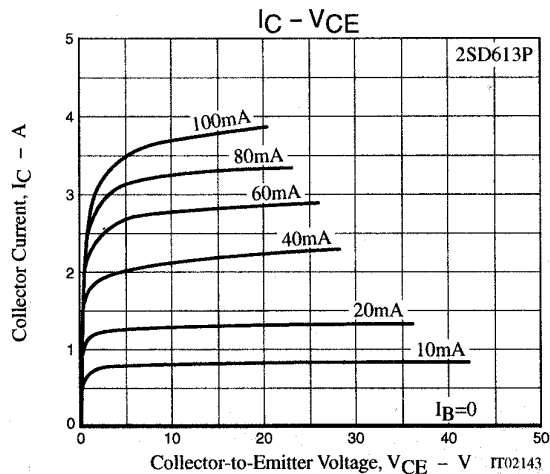
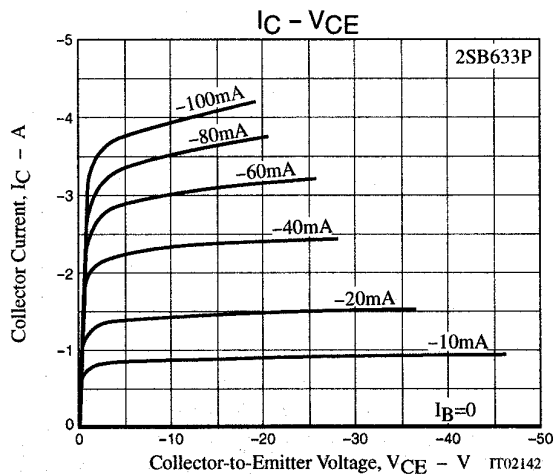
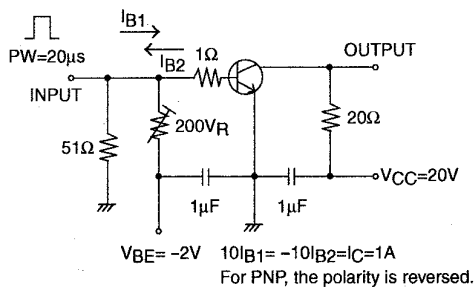
Continued from preceding page.

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		$\mu s$
Fall Time	$t_f$	See specified test circuit.		(0.33)0.50		$\mu s$
Storage Time	$t_{stg}$	See specified test circuit.		(1.45)3.60		$\mu s$

\* : 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

### Switching Time Test Circuit



2SB633P/2SD613P

