



2SB817C/2SD1047C

140V / 12A, AF 80W Output Applications

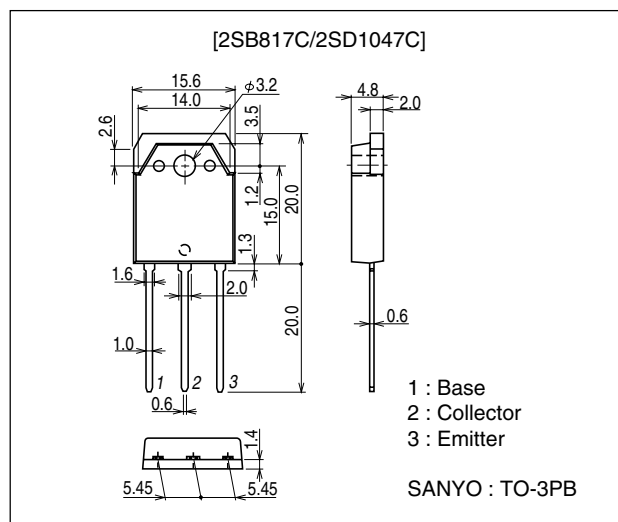
Features

- Large current capacitance.
- Wide ASO and high durability against breakdown.
- Adoption of MBIT process.

Package Dimensions

unit : mm

2022A



Specifications

() : 2SB817C

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		(-)160	V
Collector-to-Emitter Voltage	V _{CEO}		(-)140	V
Emitter-to-Base Voltage	V _{EB0}		(-)6	V
Collector Current	I _C		(-)12	A
Collector Current (Pulse)	I _{CP}		(-)20	A
Collector Dissipation	P _C		2.5	W
		T _C =25°C	120	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CB0}	V _{CB} =(-)160V, I _E =0			(-)0.1	mA
Emitter Cutoff Current	I _{EB0}	V _{EB} =(-)4V, I _C =0			(-)0.1	mA
DC Current Gain	h _{FE1}	V _{CE} =(-)5V, I _C =(-)1A	100		200	
	h _{FE2}	V _{CE} =(-)5V, I _C =(-)5A	35			

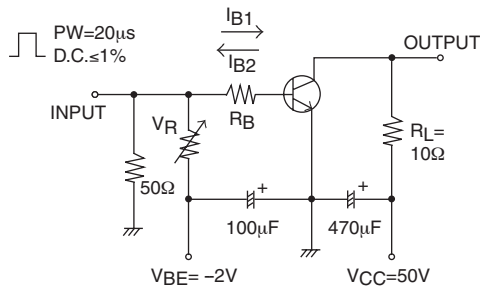
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gain-Bandwidth Product	f_T	$V_{CE}=(-)5V, I_C=(-)1A$		(10)15		MHz
Output Capacitance	C_{ob}	$V_{CB}=(-)10V, f=1MHz$		(280)140		pF
Base-to-Emitter Voltage	V_{BE}	$V_{CE}=(-)5A, I_C=(-)0.5A$			1.5	V
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)5A, I_B=(-)0.5A$		(- 0.3)0.2	(-)2.0	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)5mA, I_E=0$	(-)160			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)50mA, R_{BE}=\infty$	(-)140			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.		(0.45)0.56		μs
Storage Time	t_{stg}	See specified Test Circuit.		(1.75)3.3		μs
Fall Time	t_f	See specified Test Circuit.		(0.25)0.4		μs

Switching Time Test Circuit



$I_C = 10I_{B1} = -10I_{B2} = 5A$
For PNP, the polarity is reversed.

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