

140V/12A AF 60W Output Applications

Features

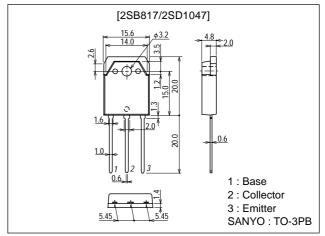
- · Capable of being mounted easily because of onepoint fixing type plastic molded package (Interchangeable with TO-3).
- · Wide ASO because of on-chip ballast resistance.
- \cdot Good dependence of $f_{\mbox{\scriptsize T}}$ on current and excellent high frequency responce.

The descriptions in parentheses are for the 2SB817 only: other descriptions than those in parentheses are common to the 2SB817 and 2SD1047.

Package Dimensions

unit:mm

2022A



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		(–)160	V
Collector-to-Emitter Voltage	VCEO		(–)140	V
Emitter-to-Base Voltage	V _{EBO}		(–)6	V
Collector Current	lc		(–)12	Α
Collector Current (Pulse)	I _{CP}		(–)15	Α
Collector Dissipation	PC	Tc=25°C	100	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-40 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Offic
Collector Cutoff Current	ICBO	V _{CB} =(-)80V, I _E =0			(-)0.1	mA
Emitter Cutoff Current	I _{EBO}	$V_{EB}=(-)4V, I_{C}=0$			(–)0.1	mA
DC Current Gain	h _{FE} 1	$V_{CE}=(-)5V, I_{C}=(-)1A$	60*		200*	
	h _{FE} 2	V _{CE} =(-)5V, I _C =(-)6A	20			
Gain-Bandwidth Product	f _T	$V_{CE}=(-)5V, I_{C}=(-)1A$		15		MHz
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		(300)		pF
				210		pF

^{*}: The 2SB817/2SD1047 are classified by 1A h_{FE} as follows:

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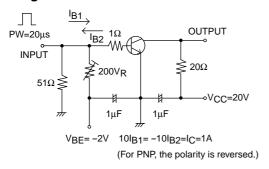
Rank	D	Е
hFE	60 to 120	100 to 200

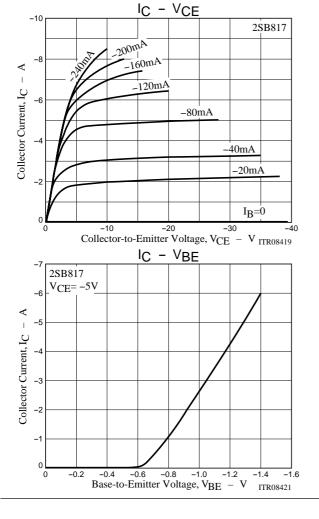
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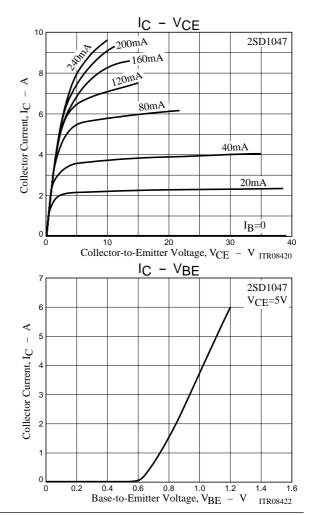
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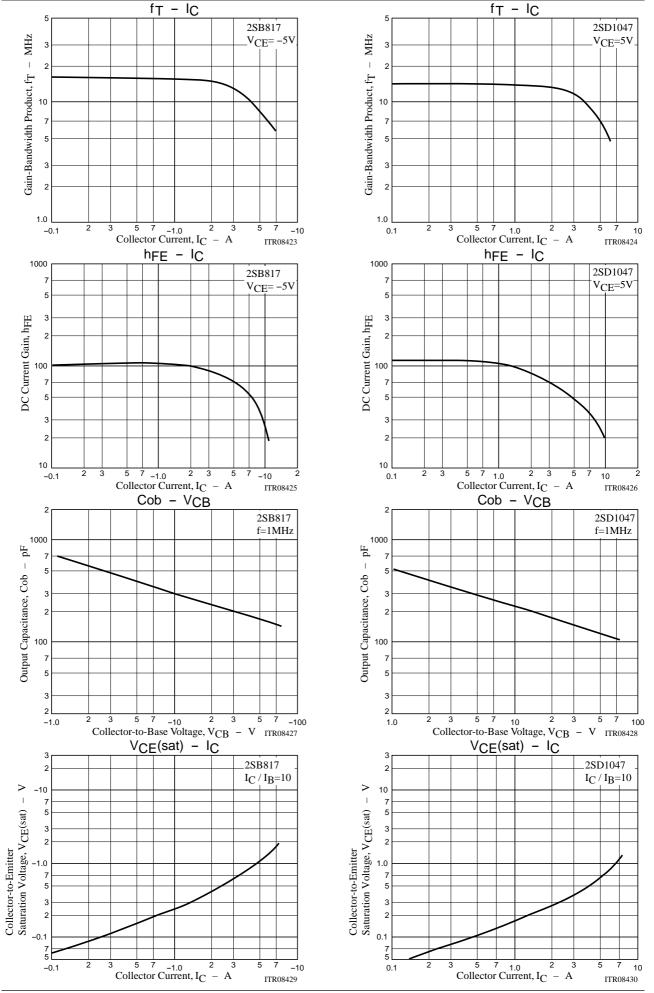
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	Oill
Base-to-Emitter Voltage	V _{BE}	V _{CE} =(-)5V, I _C =(-)1A			1.5	V
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =(-)5A, I _B =(-)0.5A		0.6	2.5	V
				(1.1)		V
Collector-to-Base Breakdown Voltage	V _(BR) CBO	I _C =(-)5mA, I _E =0	(–)160			V
Collector-to-Emitter Breakdown Voltage	V _(BR) CEO	I _C =(−)5mA, R _{BE} =∞	(-)140			V
		I _C =(−)50mA, R _{BE} =∞	(-)140			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E =(-)5mA, I _C =0	(-)6			V
Turn-ON Time		See specified Test Circuit		(0.25)		μs
	t _{on}	See specified rest circuit		0.26		μs
Fall Time	t _f	See specified Test Circuit		(0.53)		μs
				0.68		μs
Storage Time	t _{stg}	See specified Test Circuit		(1.61)		μs
				6.88		μs

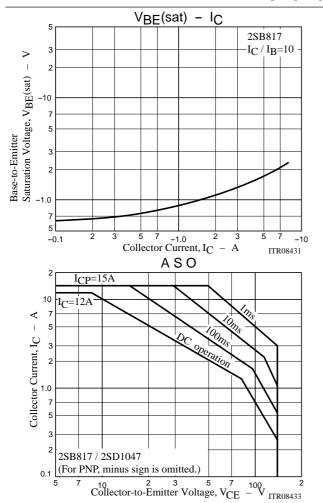
Switching Time Test Circuit

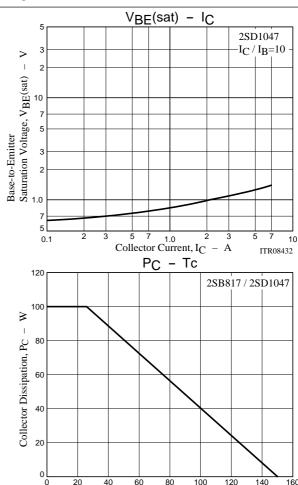












Case Temperature, Tc - °C

ITR08434

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