



BC846BS & BC847AS

NPN GENERAL PURPOSE TRANSISTORS

VOLTAGE 45/65 Volts **POWER** 150 mWatts

SOT-363

Unit: inch (mm)

FEATURES

- General purpose amplifier applications
- NPN epitaxial silicon, planar design
- Collector current $I_C = 100\text{mA}$
- In compliance with EU RoHS 2002/95/EC directives

MECHANICAL DATA

Case: SOT-363, Plastic

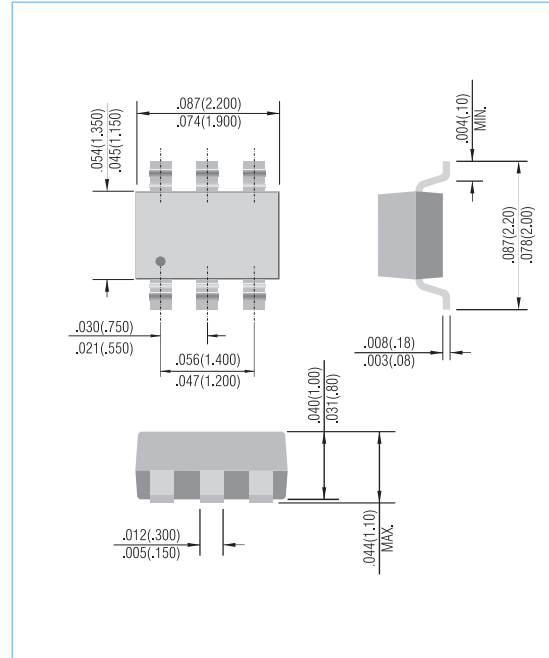
Terminals: Solderable per MIL-STD-750, Method 2026

Approx. Weight: 0.006 gram

Marking :

BC846BS=46S

BC847AS=47A



ABSOLUTE RATINGS

Parameter	Symbol	Value	Units
Collector - Emitter Voltage	V_{CE0}	65 45	V
Collector - Base Voltage	V_{CB0}	80 50	V
Emitter - Base Voltage	V_{EB0}	6.0	V
Collector Current - Continuous	I_C	100	mA

THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Max Power Dissipation (Note 1)	P_{TOT}	150	mW
Junction Temperature	T_J	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C

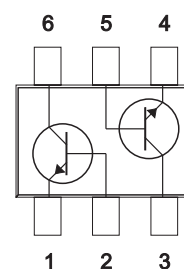
Note 1: Transistor mounted on FR-5 board 1.0 x 0.75 x 0.062 in.



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ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Test Condition	MIN.	TYP.	MAX.	Units
Collector - Emitter Breakdown Voltage BC846BS BC847AS	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	65 45	-	-	V
Collector - Base Breakdown Voltage BC846BS BC847AS	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	80 50	-	-	V
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	6.0	-	-	V
Emitter-Base Cutoff Current	I_{EBO}	$V_{EB}=5$	-	-	100	nA
Collector-Base Cutoff Current	I_{CBO}	$V_{CB}=30V, I_E=0$ $V_{CB}=30V, I_E=0, T_J=150^\circ C$	-	-	15 5.0	nA uA
DC Current Gain BC846BS BC847AS	h_{FE}	$I_C=10\mu A, V_{CE}=5V$	-	150 90	-	-
DC Current Gain BC846BS BC847AS	h_{FE}	$I_C=2.0mA, V_{CE}=5V$	200 110	290 180	450 220	-
Collector - Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=10mA, I_B=0.5mA$ $I_C=100mA, I_B=5.0mA$	-	-	0.25 0.6	V
Base - Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=10mA, I_B=0.5mA$ $I_C=100mA, I_B=5.0mA$	-	0.7 0.9	-	V
Base - Emitter Voltage	$V_{BE(SAT)}$	$I_C=2mA, V_{CE}=5.0V$ $I_C=10mA, V_{CE}=5.0V$	0.58 -	0.660 -	0.70 0.77	V
Collector - Base Capacitance	C_{CBO}	$V_{CB}=10V, I_E=0, f=1MH$	-	-	4.5	pF





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ELECTRICAL CHARACTERISTICS CURVE

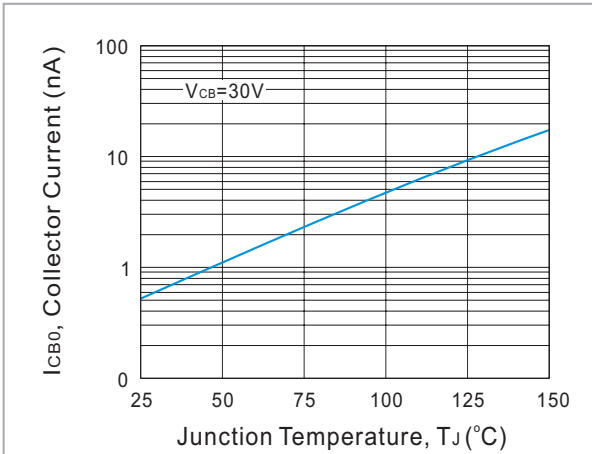


Fig. 1. Typical I_{CBO} vs. Junction Temperature

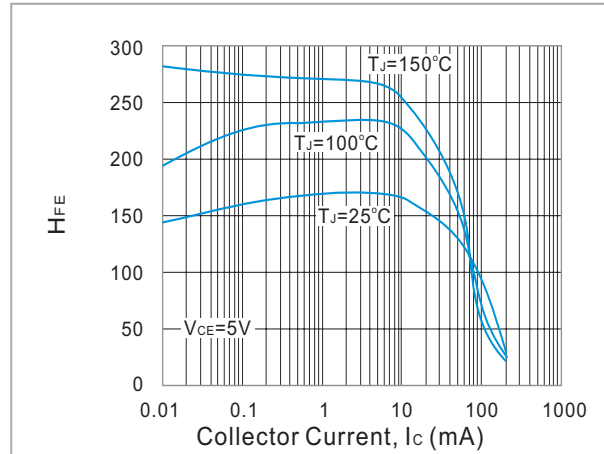


Fig. 2. Typical h_{FE} vs. Collector Current

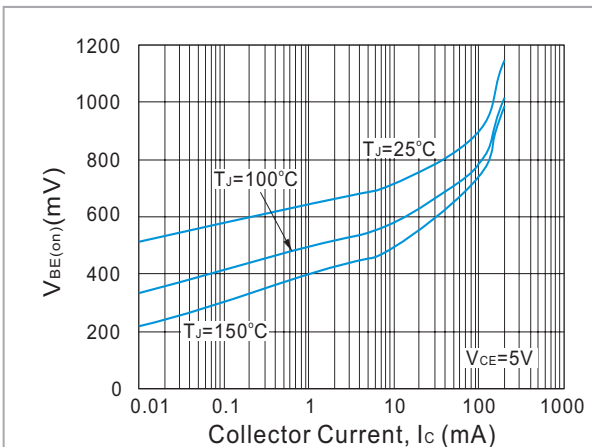


Fig. 3. Typical $V_{BE(on)}$ vs. Collector Current

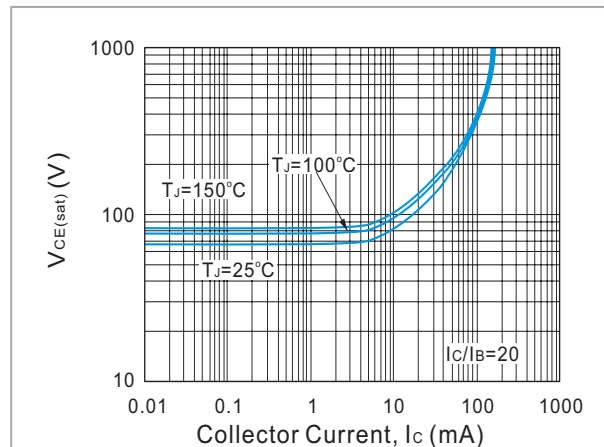


Fig. 4. Typical $V_{CE(sat)}$ vs. Collector Current

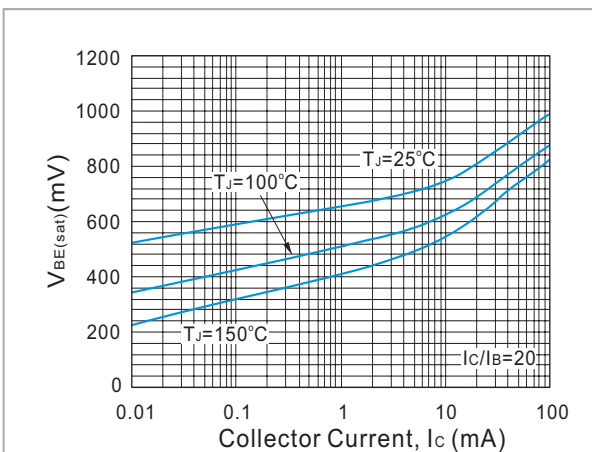


Fig. 5. Typical Capacitances vs. Reverse Voltage

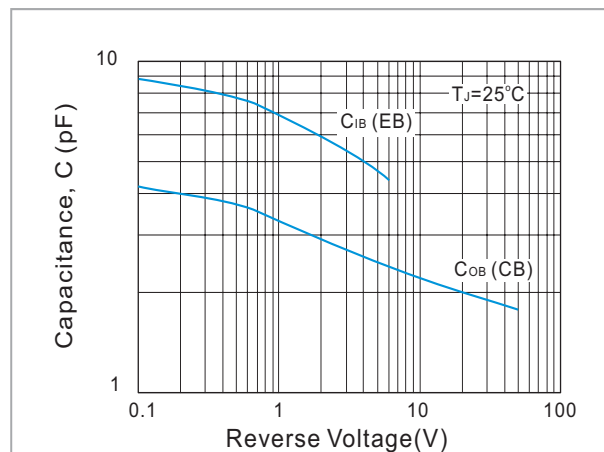
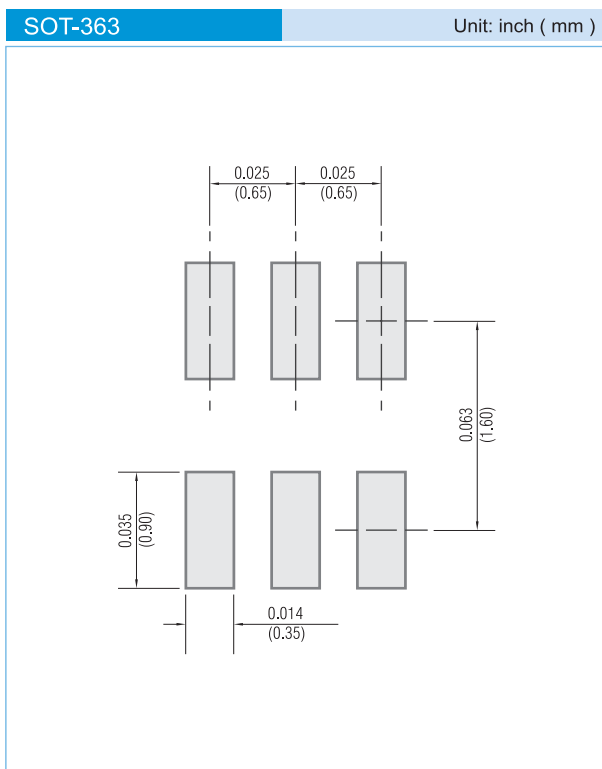


Fig. 6. Typical Capacitances vs. Reverse Voltage



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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
 - T/R - 10K per 13" plastic Reel
 - T/R - 3K per 7" plastic Reel

LEGAL STATEMENT

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