



BC846BPN-AU

DUAL SURFACE MOUNT NPN/PNP TRANSISTORS (COMPLEMENTARY)

This device contains two electrically-isolated complimentary pair (NPN and PNP) general-purpose transistors. This device is ideal for portable applications where board space is at a premium.

VOLTAGE	65 Volt	POWER	225 mWatt
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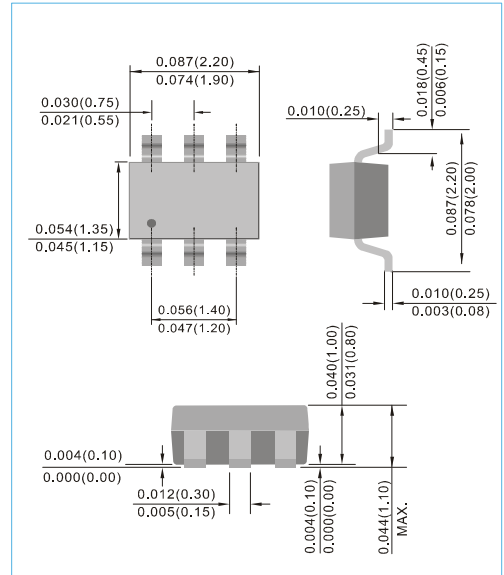
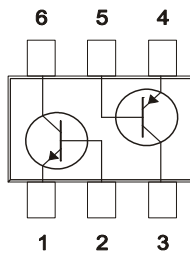
SOT-363 Unit : inch(mm)

FEATURES

- General purpose amplifier applications
- Collector current $I_c = 100\text{mA}$
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard
- AEC-Q101 qualified

MECHANICAL DATA

- Case : SOT-363, Plastic
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.006 grams



ABSOLUTE RATINGS

NPN

Parameter	Symbol	Value	Units
Collector - Emitter Voltage	V_{CE0}	65	V
Collector - Base Voltage	V_{CBO}	80	V
Emitter - Base Voltage	V_{EBO}	6.0	V
Collector Current - Continuous	I_c	100	mA

PNP

Parameter	Symbol	Value	Units
Collector - Emitter Voltage	V_{CE0}	-65	V
Collector - Base Voltage	V_{CBO}	-80	V
Emitter - Base Voltage	V_{EBO}	-5.0	V
Collector Current - Continuous	I_c	-100	mA



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THERMAL CHARACTERISTICS

Parameter	Symbol	Value	Units
Max .Total Power Dissipation	P_{TOT}	225	mW
Junction Temperature range	T_J	-55 to 150	°C
Storage Temperature range	T_{STG}	-55 to 150	°C

ELECTRICAL CHARACTERISTICS

NPN

Parameter	Symbol	Test Condition	MIN.	TYP.	MAX.	Units
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10mA$	65	-	-	V
Collector - Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, V_{EB}=0$	80	-	-	V
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1.0\mu A$	6.0	-	-	V
Collector-Base Cutoff Current	I_{CBO}	$V_{CB}=30V, I_E=0$	-	-	15	nA
DC Current Gain	h_{FE}	$I_C=2.0mA, V_{CE}=5V$	200	-	450	-
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	$V_{BE(SAT)}$	$I_C=10mA, I_B=0.5mA$	0.6	-	0.9	V
Gain-Bandwidth Product	f_T	$V_{CE}=5V, I_C=10mA$ $f=100MHz$	100	-	-	MHz

PNP

Parameter	Symbol	Test Condition	MIN.	TYP.	MAX.	Units
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-10mA$	-65	-	-	V
Collector - Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu A, V_{EB}=0$	-80	-	-	V
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-1.0\mu A$	-5.0	-	-	V
Collector-Base Cutoff Current	I_{CBO}	$V_{CB}=-30V, I_E=0$	-	-	-15	nA
DC Current Gain	h_{FE}	$I_C=-2.0mA, V_{CE}=-5V$	220	-	475	-
Collector - Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=-10mA, I_B=-0.5mA$ $I_C=-100mA, I_B=-5.0mA$	-	-	-0.3 -0.65	V
Base - Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=-10mA, I_B=-0.5mA$	-0.6	-	-0.9	V
Gain-Bandwidth Product	f_T	$V_{CE}=-5V, I_C=-10mA$ $f=100MHz$	100	-	-	MHz



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NPN ELECTRICAL CHARACTERISTICS CURVE

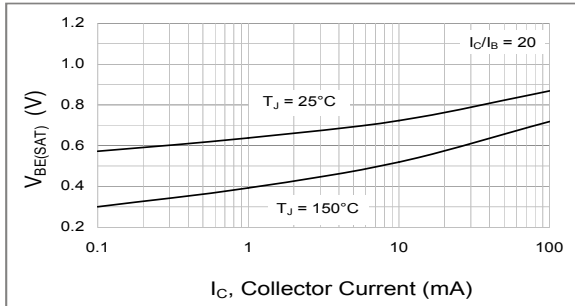


Fig.1 Base-Emitter Saturation Voltage

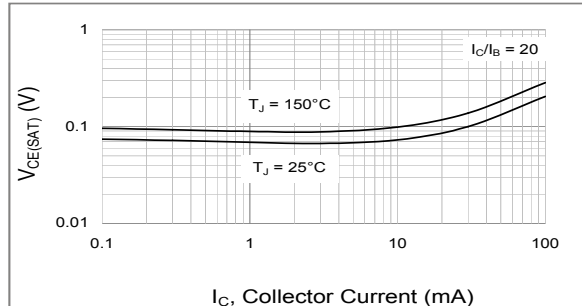


Fig.2 Collector-Emitter Saturation Voltage

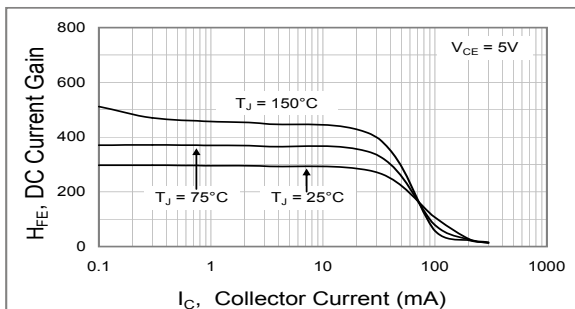


Fig.3 DC Current Gain

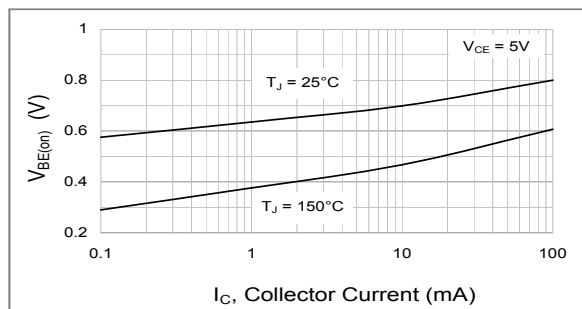


Fig.4 Base-Emitter Voltage

PNP ELECTRICAL CHARACTERISTICS CURVE

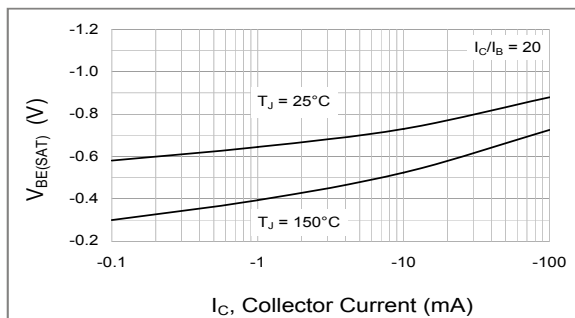


Fig.1 Base-Emitter Saturation Voltage

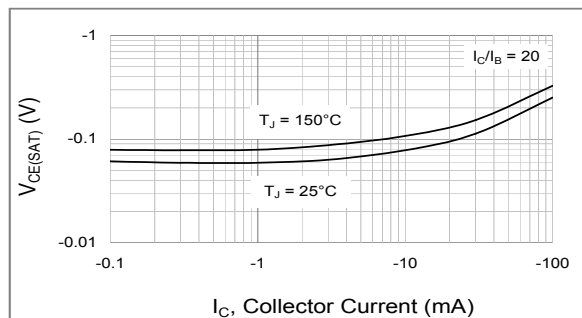


Fig.2 Collector-Emitter Saturation Voltage

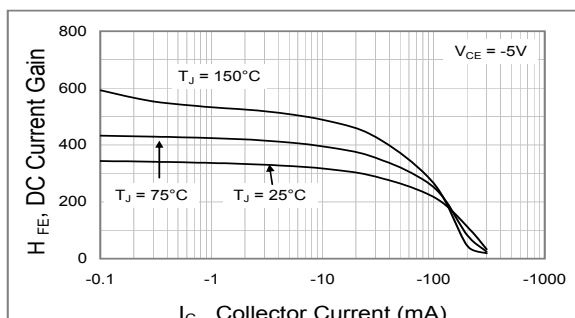


Fig.3 DC Current Gain

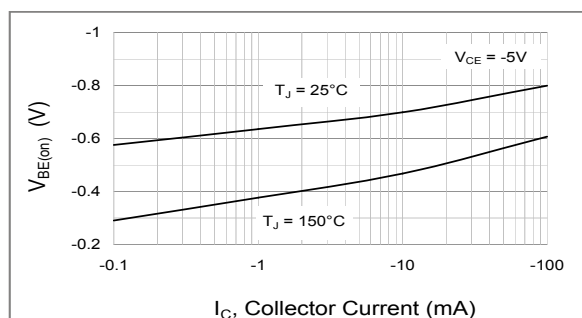


Fig.4 Base-Emitter Voltage

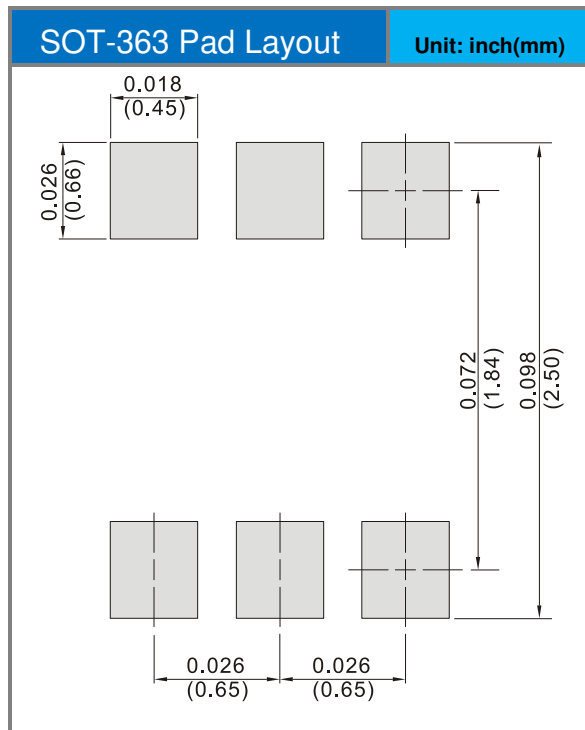


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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
BC846BPN-AU	SOT-363	3K pcs / 7" reel	46P
BC846BPN-AU	SOT-363	10K pcs / 13" reel	46P

Mounting Pad Layout





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