



BC846BPN

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.

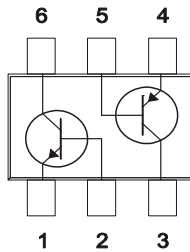
VOLTAGE 65 Volt **POWER** 225 mWatt

FEATURES

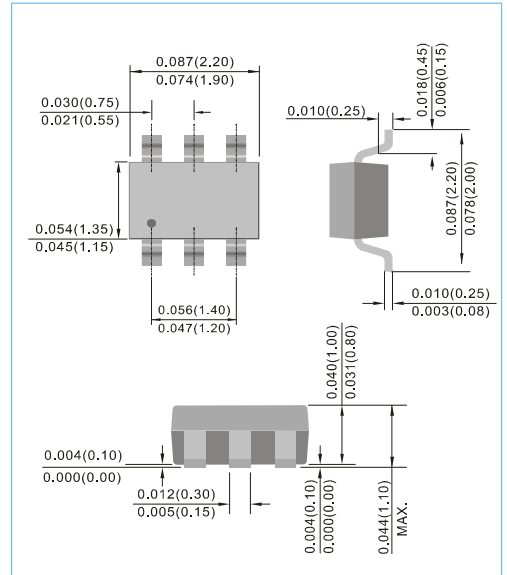
- General purpose amplifier applications
- Collector current $I_c = 100\text{mA}$
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

MECHANICAL DATA

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



SOT-363 Unit : inch(mm)



ABSOLUTE RATINGS

NPN

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



BC846BPN

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



BC846BPN

NPN ELECTRICAL CHARACTERISTICS CURVE

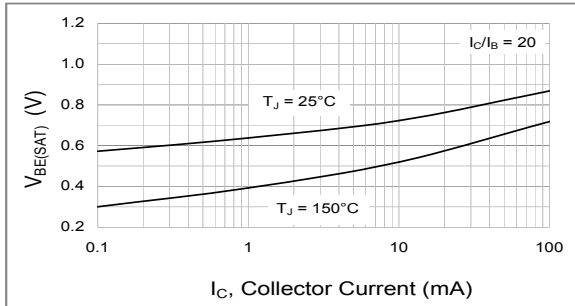


Fig.1 Base-Emitter Saturation Voltage

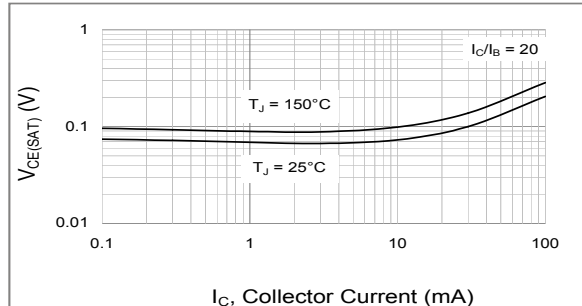


Fig.2 Collector-Emitter Saturation Voltage

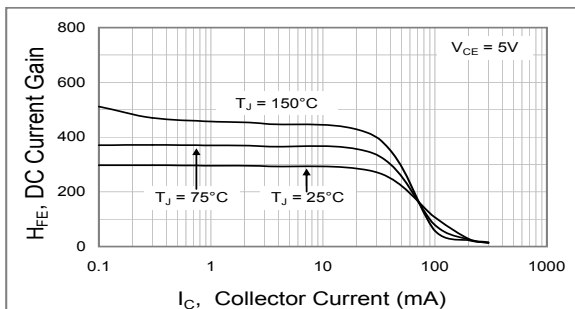


Fig.3 DC Current Gain

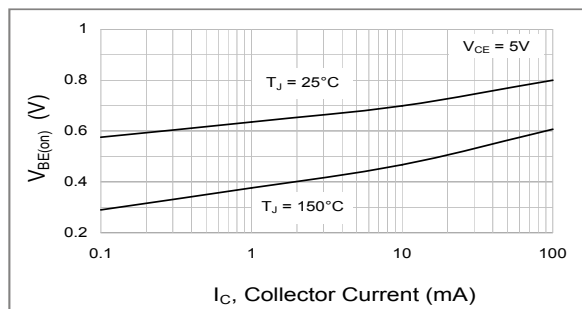


Fig.4 Base-Emitter Voltage

PNP ELECTRICAL CHARACTERISTICS CURVE

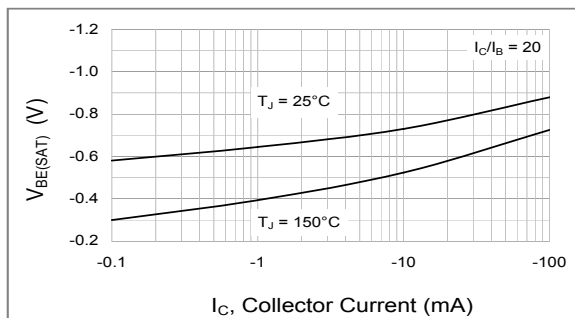


Fig.1 Base-Emitter Saturation Voltage

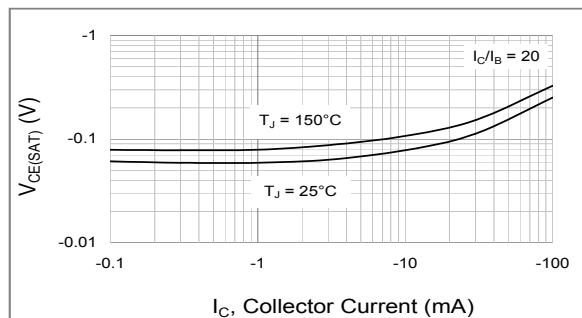


Fig.2 Collector-Emitter Saturation Voltage

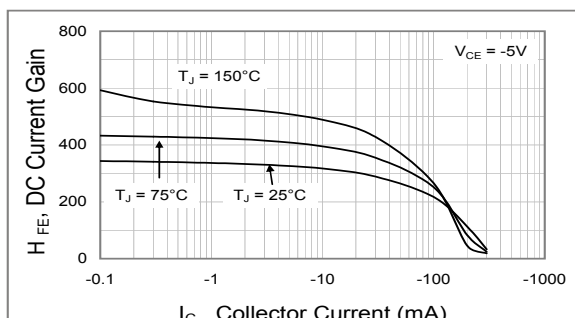


Fig.3 DC Current Gain

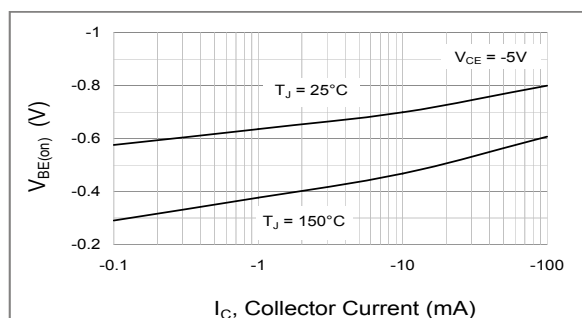


Fig.4 Base-Emitter Voltage

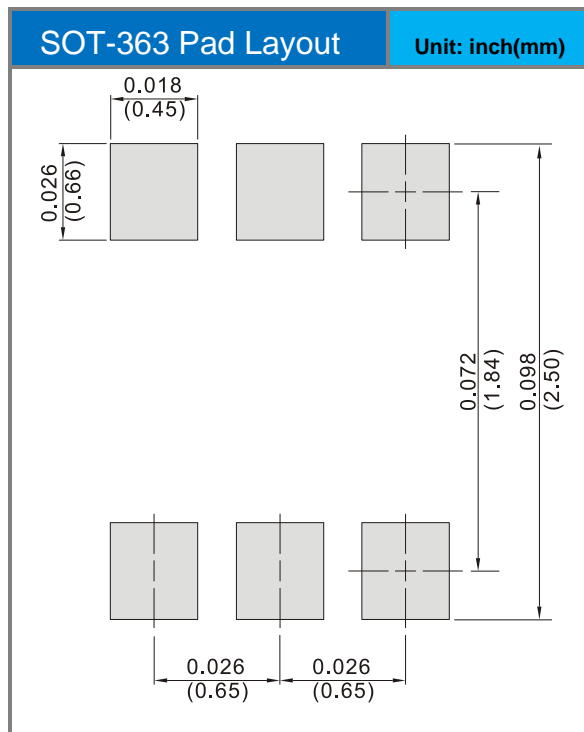


BC846BPN

Product and Packing Information

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

Mounting Pad Layout





BC846BPN

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.