BC846APN

DUAL SURFACE MOUNT NPN/PNP TRANSISTORS (COMPLEMENTARY)

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

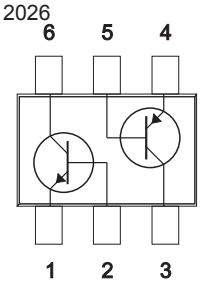
VOLTAGE	65 Volt	POWER	225 mWatt

FEATURES

- Electrically-Isolated Complimentary Transistor Pairs
- 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



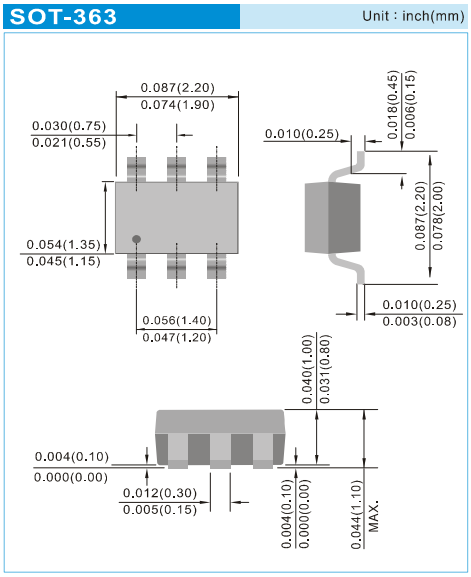


Fig.55

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

ABSOLUTE RATINGS-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	V
Collector Current - Continuous	I_C	-100	mA

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THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNITS
Max Power Dissipation (Note 1)	P_{TOT}	225	mW
Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	556	°C/W
Junction Temperature	T_J	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C

Note 1: Transistor mounted on FR-4 board 70 x 60 x 1mm.

NPN ELECTRICAL CHATACTERISTICS (Note 2) T_J=25°C Unless otherwise noted

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	IC=10mA, IB=0	65	-	-	V
Collector - Base Breakdown Voltage	$V_{(BR)CBO}$	IC=10uA, IE=0	80	-	-	V
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	IE=10uA, IC=0	6.0	-	-	V
Emitter-Base Cutoff Current	I_{EBO}	VEB=5V	-	-	100	nA
Collector-Base Cutoff Current	I_{CBO}	VCB=30V, IE=0 VCB=30V, IE=0,TJ=150°C	-	-	15 5.0	nA uA
DC Current Gain	h_{FE}	IC=10uA, VCE=5V	-	90	-	-
DC Current Gain	h_{FE}	IC=2.0mA, VCE=5V	110	180	220	-
Collector - Emitter Saturation Voltage	$V_{CE(SAT)}$	IC=10mA, IB=0.5mA IC=100mA, IB=5.0mA	-	-	0.25 0.6	V
Base - Emitter Saturation Voltage	$V_{CE(SAT)}$	IC=10mA, IB=0.5mA IC=100mA, IB=5.0mA	-	0.7 0.9	-	V
Base - Emitter Voltage	$V_{CE(SAT)}$	IC=2mA, VCE=5.0V IC=10mA, VCE=5.0V	0.58 -	0.660 -	0.70 0.77	V
Collector - Base Capacitance	C_{CBO}	VCB=10V, IE=0, f=1MH	-	-	4.5	pF

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PNP ELECTRICAL CHATACTERISTICS (Note 2) T_J=25°C Unless otherwise noted

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	IC=-10mA, IB=0	-65	-	-	V
Collector - Base Breakdown Voltage	$V_{(BR)CBO}$	IC=-10uA, IE=0	-80	-	-	V
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	IE=-1uA, IC=0	-5.0	-	-	V
Emitter-Base Cutoff Current	I_{EBO}	VEB=-5V	-	-	-100	nA
Collector-Base Cutoff Current	I_{CBO}	VCB=-30V, IE=0 VCB=-30V, IE=0,TJ=150 °C	-	-	-15 -4.0	nA uA
DC Current Gain	h_{FE}	IC=-10uA, VCE=-5V	-	90	-	-
DC Current Gain	h_{FE}	IC=-2.0mA, VCE=-5V	110	180	220	-
Collector - Emitter Saturation Voltage	$V_{CE(SAT)}$	IC=-10mA, IB=-0.5mA IC=-100mA, IB=-5.0mA	-	-	-0.30 -0.65	V
Base - Emitter Saturation Voltage	$V_{CE(SAT)}$	IC=-10mA, IB=-0.5mA IC=-100mA, IB=-5.0mA	-	-0.7 -0.9	-	V
Base - Emitter Voltage	$V_{CE(SAT)}$	IC=-2mA, VCE=-5.0V IC=-10mA, VCE=-5.0V	-0.60 -	- -	-0.75 -0.82	V
Collector - Base Capacitance	C_{CBO}	VCB=-10V, IE=0, f=1MH	-	-	4.5	pF

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NPN ELECTRICAL CHARACTERISTICS CURVE

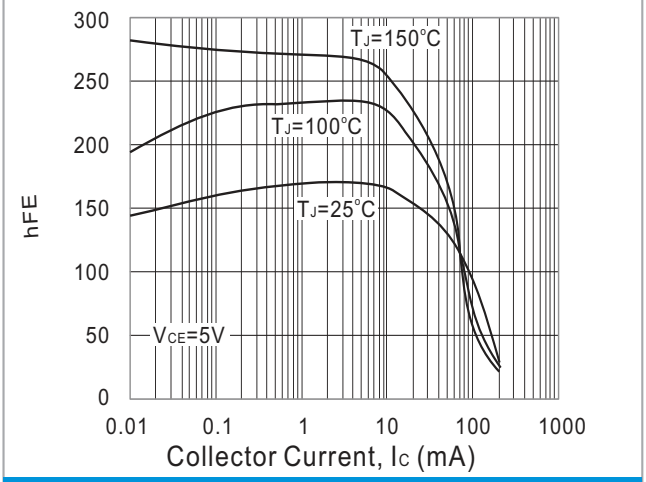

Fig.1- TYPICAL h_{FE} vs. Collector Current

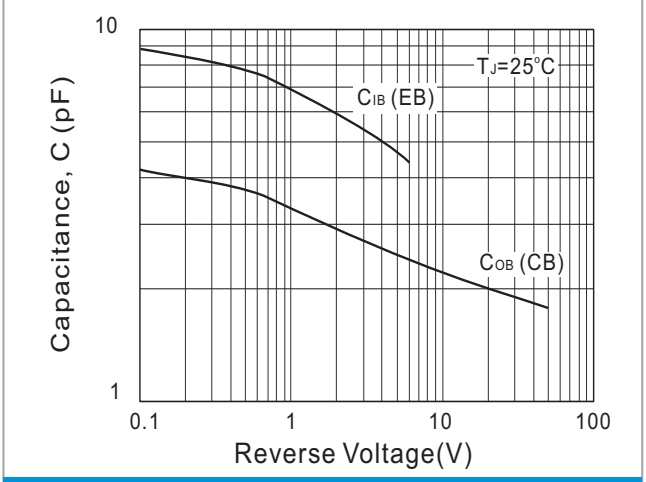

Fig.2- TYPICAL CAPACITANCES vs. REVERSE VOLTAGE

PNP ELECTRICAL CHARACTERISTICS CURVE

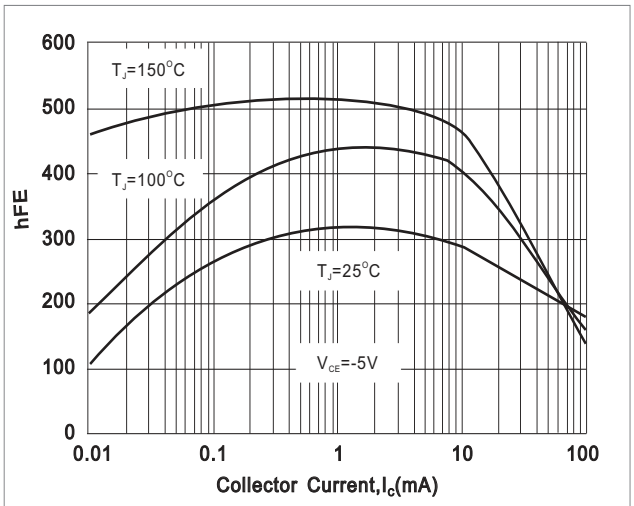

Fig.1- TYPICAL h_{FE} vs. Collector Current

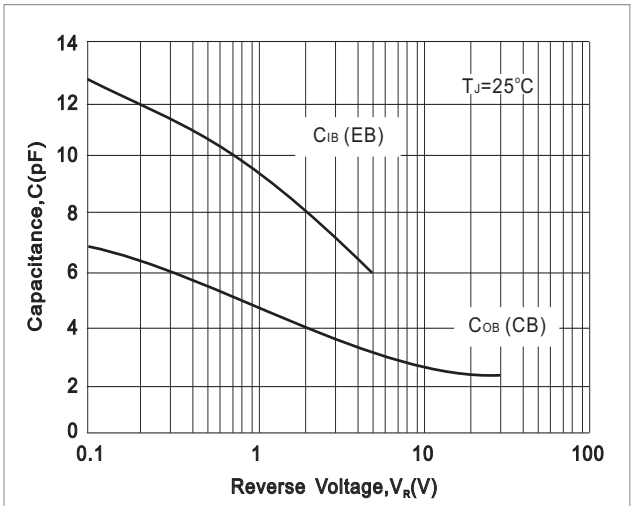

Fig.2- TYPICAL CAPACITANCES vs. REVERSE VOLTAGE

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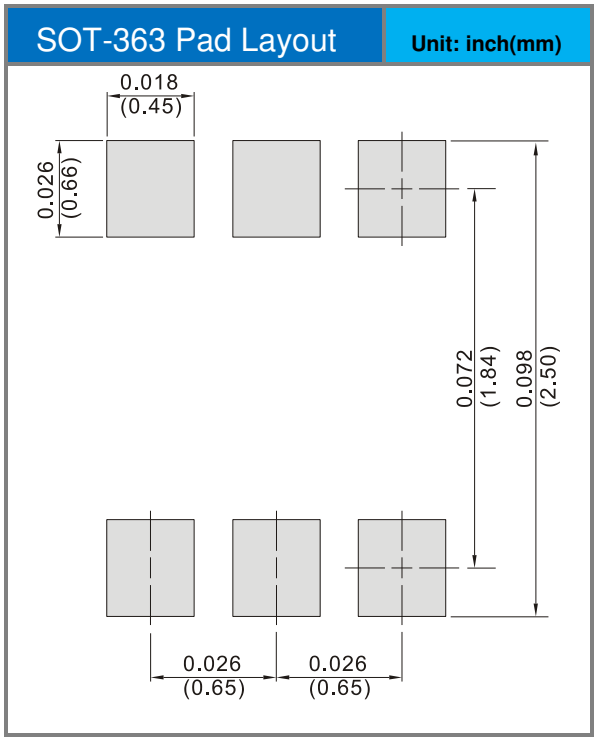
Product and Packing Information

Part No.	Package Type	Packing Type	Marking
BC846APN	SOT-363	3K pcs / 7” reel	46N
BC846APN	SOT-363	10K pcs / 13” reel	46N

Mounting Pad Layout



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