BC846,BC847,BC848,BC849,BC850 SERIES

NPN GENERAL PURPOSE TRANSISTORS

VOLTAGE 30/45/65 Volts **CURRENT** 330 mWatts

FEATURES

- General purpose amplifier applications
- NPN epitaxial silicon, planar design
- Collector current IC = 100mA
- Lead free in comply with EU RoHS 2002/95/EC directives.

ð Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

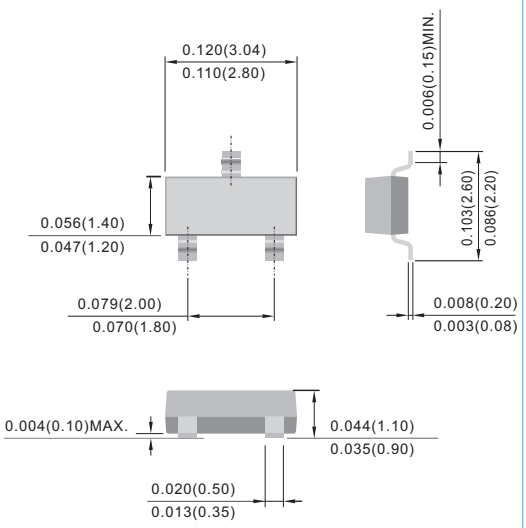
Case: SOT-23, Plastic

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

Approx. Weight: 0.008 gram

Device Marking:				
BC846A=46A	BC847A=47A	BC848A=48A		
BC846B=46B	BC847B=47B	BC848B=48B	BC849B=49B	BC850B=50B
	BC847C=47C	BC848C=48C	BC849C=49C	BC850C=50C

SOT-23 Unit : inch(mm)



ABSOLUTE RATINGS

PARAMETER		Symbol	Value	Units
Collector - Emitter Voltage	BC846 BC847,BC850 BC848,BC849	V_{CEO}	65 45 30	V
Collector - Base Voltage	BC846 BC847,BC850 BC848,BC849	V_{CBO}	80 50 30	V
Emitter - Base Voltage	BC846 BC847,BC850 BC848,BC849	V_{EBO}	6.0 6.0 5.0	V
Collector Current - Continuous		I_C	100	mA

THERMAL CHARACTERISTICS

PARAMETER	Symbol	Value	Units
Max Power Dissipation (Note 1)	P_{TOT}	330	mW
Thermal Resistance , Junction to Ambient	$R\theta_{JA}$	375	$^{O}C/W$
Operating Junction Temperature and Storage Temperature Range	T_J, T_{STG}	-55 to 150	^{O}C

Note 1: Transistor mounted on FR-4 board 8 cm^2.

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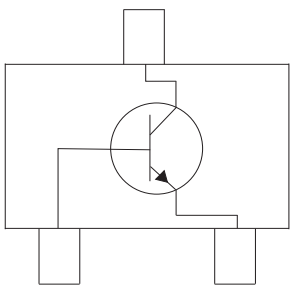
ELECTRICAL CHARACTERISTICS

PARAMETER		Symbol	Test Condition	MIN.	TYP.	MAX.	Units
Collector - Emitter Breakdown Voltage	BC846A/B BC847A/B/C,BC850B/C BC848A/B/C,BC849B/C	$V_{(BR)CEO}$	IC=10mA, IB=0	65 45 30	-	-	V
Collector - Base Breakdown Voltage	BC846A/B BC847A/B/C,BC850B/C BC848A/B/C,BC849B/C	$V_{(BR)CBO}$	IC=10uA, IE=0	80 50 30	-	-	V
Emitter - Base Breakdown Voltage	BC846A/B BC847A/B/C,BC850B/C BC848A/B/C,BC849B/C	$V_{(BR)EBO}$	IE=10uA, IC=0	6.0 6.0 5.0	-	-	V
Emitter-Base Cutoff Current		I_{EBO}	VEB=5	-	-	100	nA
Collector-Base Cutoff Current		I_{CBO}	VCB=30V, IE=0 VCB=30V, IE=0,T_J=150°C	-	-	15 5.0	nA uA
DC Current Gain	BC846~BC848 Suffix "A" BC846~BC850 Suffix "B" BC847~BC850 Suffix "C"	h_{FE}	IC=10uA, VCE=5V	-	90 150 270	-	-
DC Current Gain	BC846~BC848 Suffix "A" BC846~BC850 Suffix "B" BC847~BC850 Suffix "C"	h_{FE}	IC=2.0mA, VCE=5V	110 200 420	180 290 520	220 450 800	-
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 -	0.66 -	0.70 0.77	V
Collector - Base Capacitance		C_{CBO}	VCB=10V, IE=0, f=1MH	-	-	4.5	pF

NPN



BC846,BC847,BC848,BC849,BC850 SERIES

ELECTRICAL CHARACTERISTICS CURVE (BC846A,BC847A,BC848A)

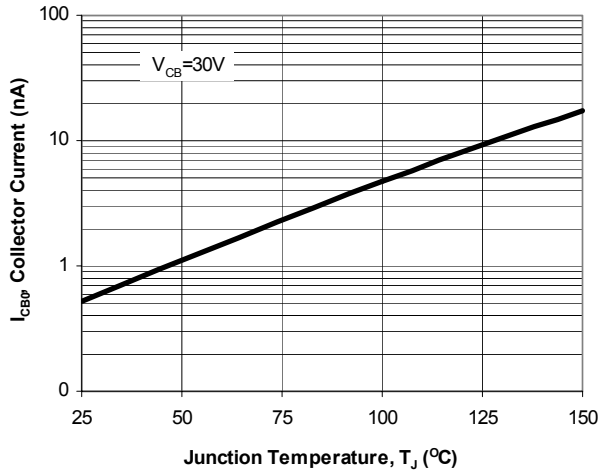


Fig. 1. Typical I_{CB0} vs. Junction Temperature

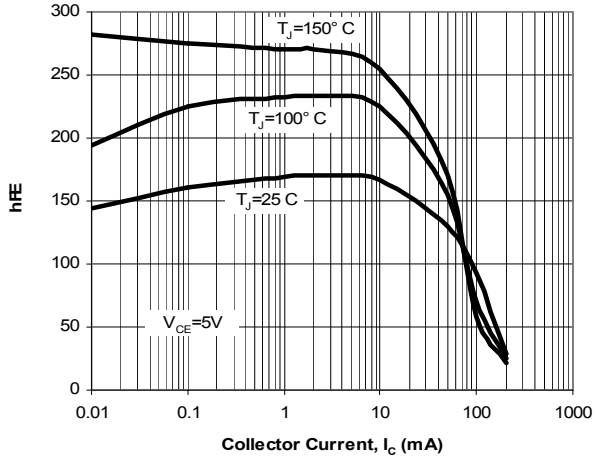


Fig. 2. Typical h_{FE} vs. Collector Current

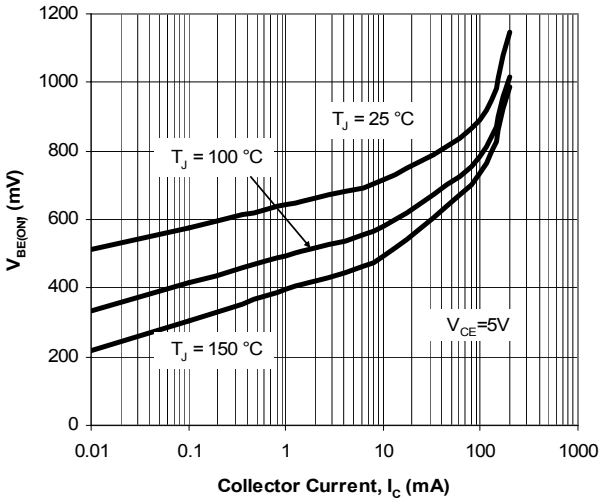


Fig. 3. Typical $V_{BE(ON)}$ vs. Collector Current

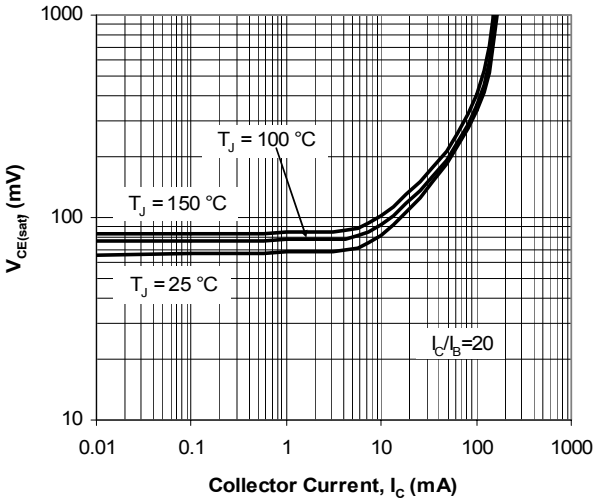


Fig. 4. Typical $V_{CE(SAT)}$ vs. Collector Current

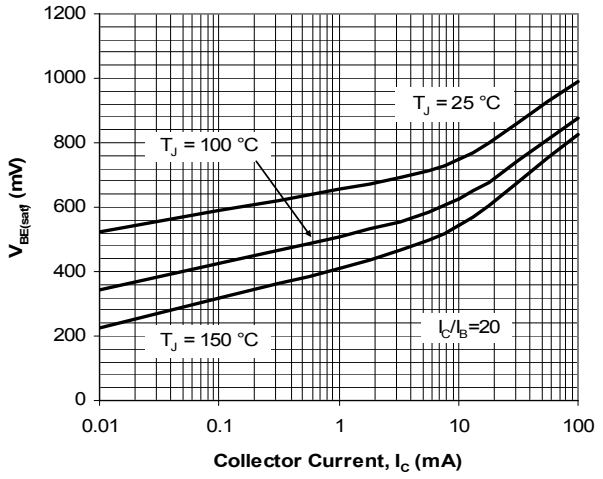


Fig. 5. Typical $V_{BE(SAT)}$ vs. Collector Current

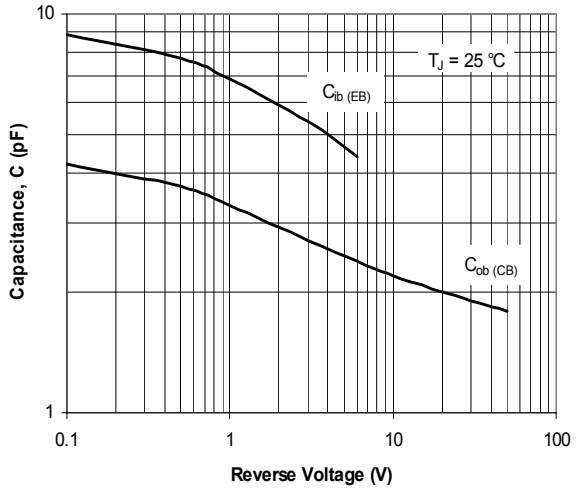


Fig. 6. Typical Capacitances vs. Reverse Voltage

BC846,BC847,BC848,BC849,BC850 SERIES

ELECTRICA5L CHARACTERISTICS CURVE (BC846B,BC847B,BC848B,BC849B,BC850B)

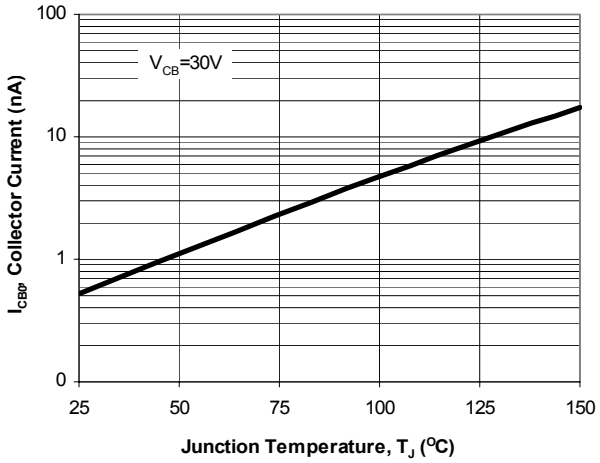


Fig. 1. Typical I_{CB0} vs. Junction Temperature

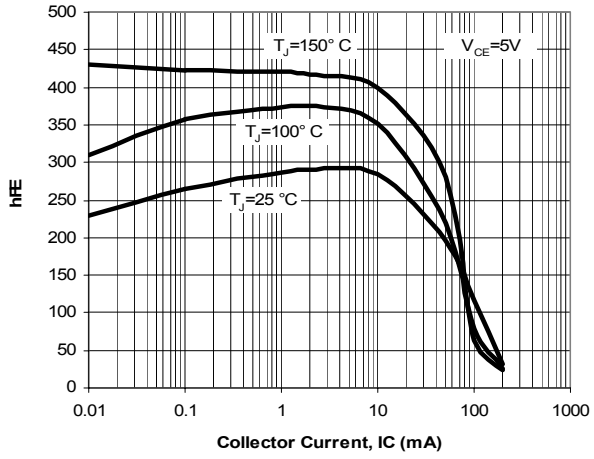


Fig. 2. Typical h_{FE} vs. Collector Current

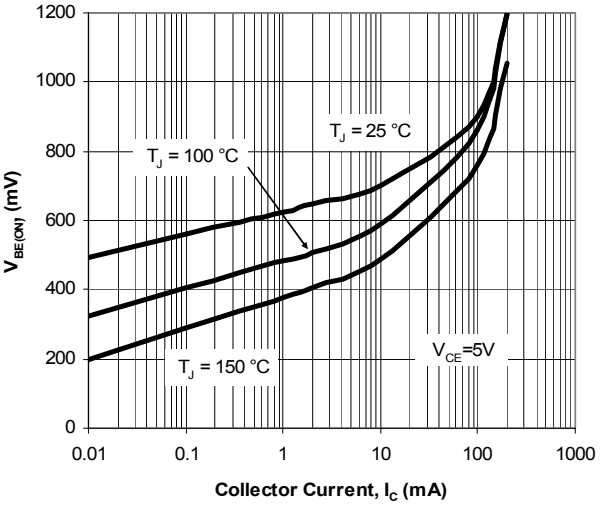


Fig. 3. Typical $V_{BE(ON)}$ vs. Collector Current

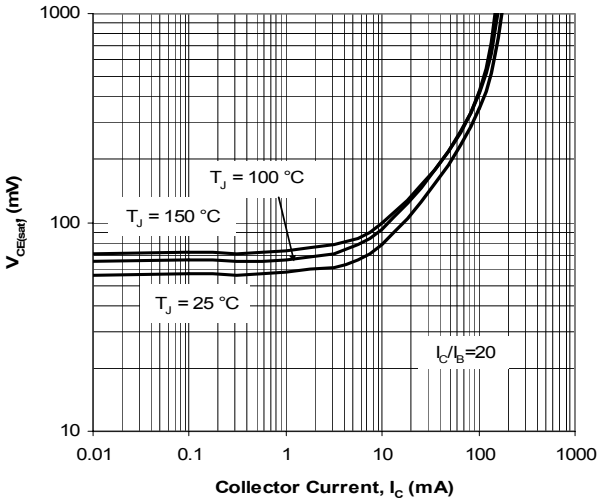


Fig. 4. Typical $V_{CE(SAT)}$ vs. Collector Current

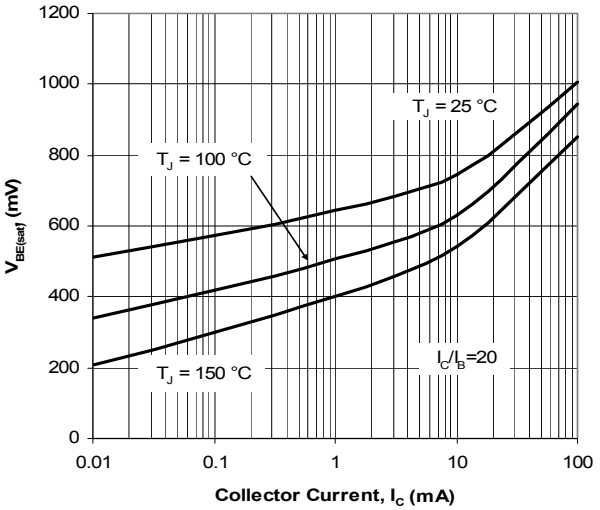


Fig. 5. Typical $V_{BE(SAT)}$ vs. Collector Current

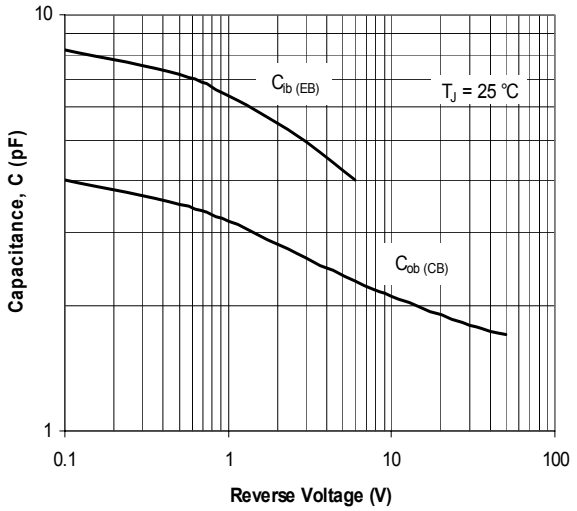


Fig. 6. Typical Capacitances vs. Reverse Voltage

BC846,BC847,BC848,BC849,BC850 SERIES

ELECTRICAL CHARACTERISTICS CURVE (BC847C,BC848C,BC849C,BC850C)

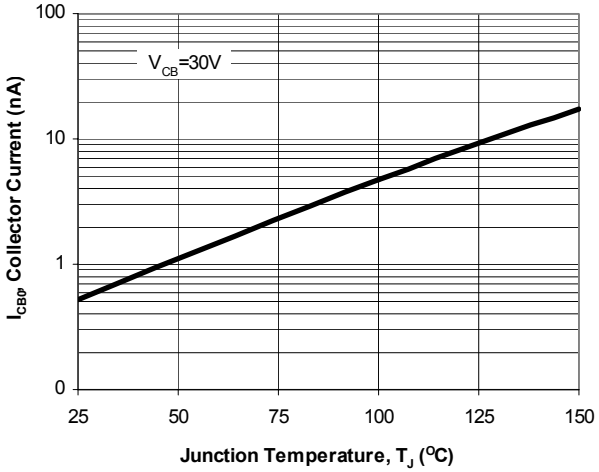


Fig. 1. Typical I_{CB0} vs. Junction Temperature

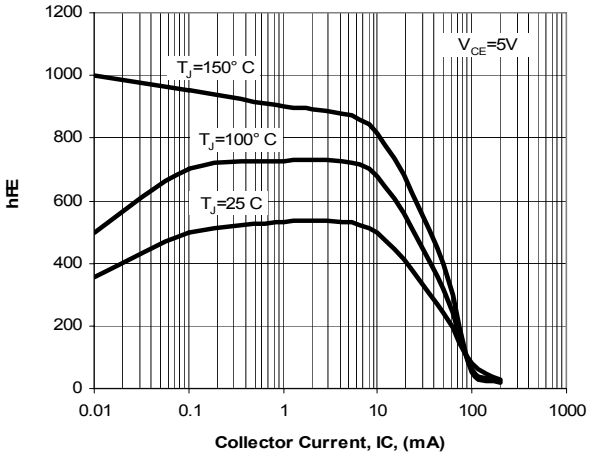


Fig. 2. Typical h_{FE} vs. Collector Current

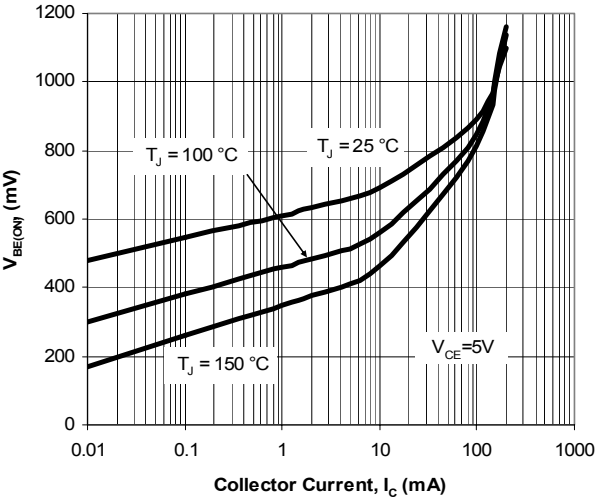


Fig. 3. Typical $V_{BE(ON)}$ vs. Collector Current

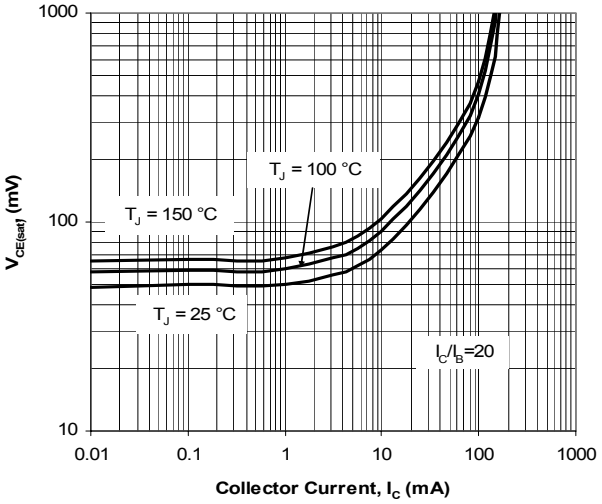


Fig. 4. Typical $V_{CE(SAT)}$ vs. Collector Current

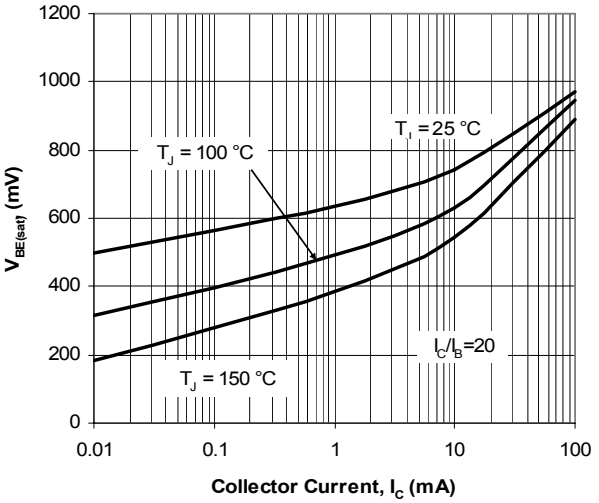


Fig. 5. Typical $V_{BE(SAT)}$ vs. Collector Current

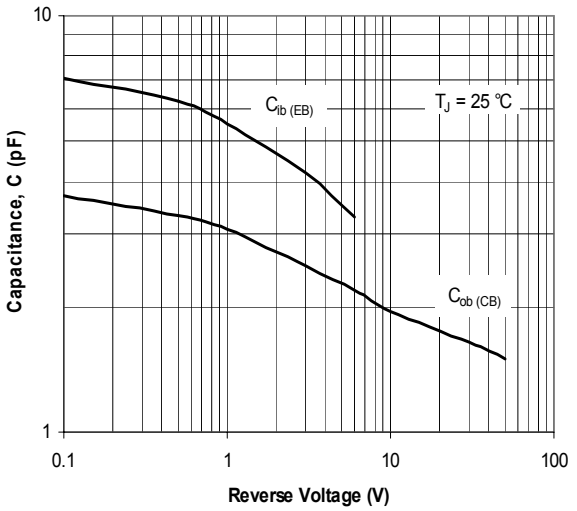
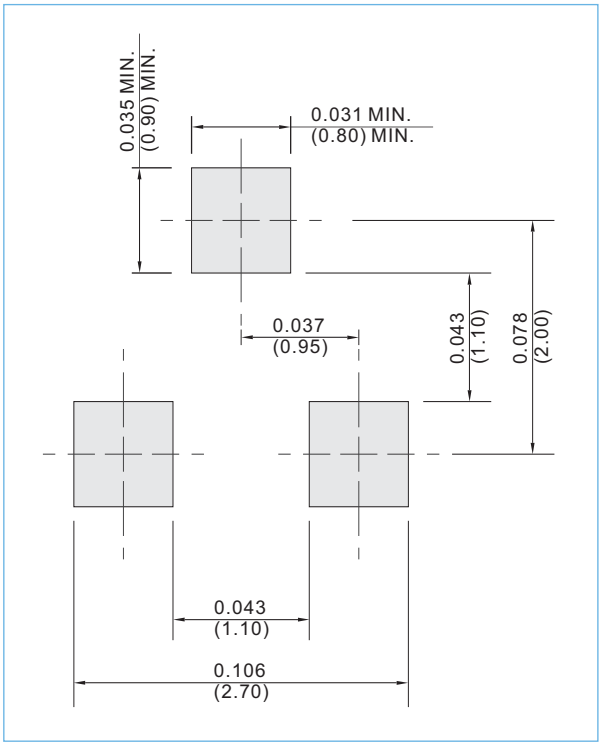


Fig. 6. Typical Capacitances vs. Reverse Voltage

BC846,BC847,BC848,BC849,BC850 SERIES

MOUNTING PAD LAYOUT

SOT-23 Unit : inch(mm)



ORDER INFORMATION

- Packing information

  T/R - 12K per 13" plastic Reel

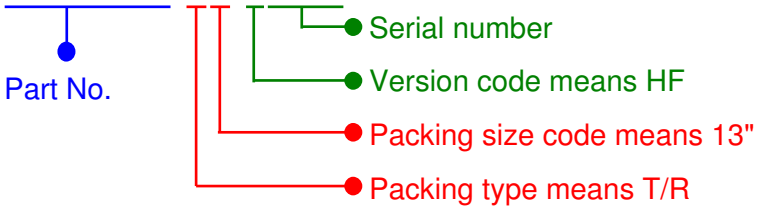
  T/R - 3K per 7” plastic Reel

LEGAL STATEMENT

BC846,BC847,BC848,BC849,BC850 SERIES

For example :

RB500V-40_R2_00001



Part No_packing code_Version

BC846A_R1_00001
BC846A_R1_10001
BC846A_R2_00001
BC846A_R2_10001

Packing Code XX				Version Code XXXXX		
Packing type	1st Code	Packing size code	2nd Code	HF or RoHS	1st Code	2nd~5th Code
T/B	A	N/A	0	HF	0	serial number
T/R	R	7"	1	RoHS	1	serial number
B/P	B	13"	2			
T/P	T	26mm	X			
TRR	S	52mm	Y			
TRL	L	PBCU	U			
FORMING	F	PBCD	D			