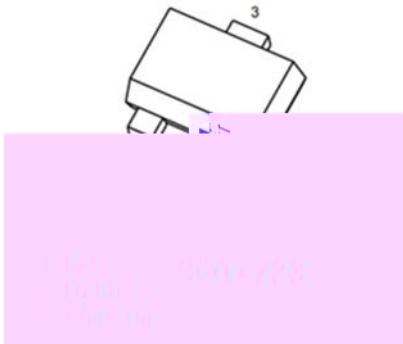
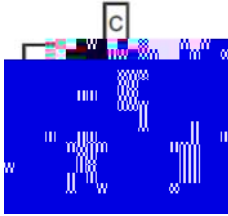


NPN Transistor



Features

- Moisture sensitivity level 1
- Halogen free and RoHS compliant
- Surface mount package ideally suited for automatic insertion

Application

- Signal amplification
- Switching circuit

Mechanical data

- **Package** SOT-723
- **Terminals** Tin plated leads, solderable per J-STD-002 and JESD22-B102

Maximum Ratings ($T_a=25$ Unless otherwise specified)

	G ma V c`	l b] h	7 c b X] h] c b g	J U ` i Y
Device marking code			BC846AM3	1A
			BC846BM3	1B
			BC847AM3	1E
			BC847BM3	1F
			BC847CM3	1G
			BC848AM3	1J
			BC848BM3	1K
			BC848CM3	1L
Collector-base voltage	V_{CBO}	V	BC846 BC846	80 $I_C=10\mu A, I_E=0$

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BC846AM3 THRU BC848CM3

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Item	Symbol	Unit	Conditions	Value
Emitter-base voltage	V_{EBO}	^{CB} V	$I_E=10\mu A, I_C=0$	6
Collector current	I_C	mA		100
Power dissipation	P_D	mW		100
Junction temperature	T_J			-55 to +150
Storage temperature	T_{STG}			-55 to +150

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	BC846	$I_C=10\mu A, I_E=0$	80	
			BC847		50	
			BC848		30	
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	V	BC846	$I_C=10mA, I_B=0$	65	
			BC847		45	
			BC848		30	
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	$I_E=10\mu A, I_C=0$	6		
Collector cut-off current	I_{CBO}	uA	BC846	$V_{CB}=70V, I_E=0$		0.1
			BC847	$V_{CB}=50V, I_E=0$		0.1
			BC848	$V_{CB}=30V, I_E=0$		0.1
Emitter-base cutoff current	I_{EBO}	uA	$V_{EB}=5V, I_C=0$			0.1
DC current gain	h_{FE}		BC846A,847A,848A	$V_{CE}=5V, I_C=2mA$ = .5	110	220
			BC846B,847B,848B		200	450
			BC847C,BC848C		420	800
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=100mA, I_B=5mA$			0.5

$I_C=100mA, I_B=5mA$

$f_c=10MHz, f_{Tc}=400MHz, I_C=10mA$

c



Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	R J-A ⁽¹⁾	/W	1250
Thermal resistance, junction-to-case	R J-C ⁽¹⁾	/W	1000

Note:

1 Thermal resistance from junction to ambient and from junction to case mounted on P.C.B. with 25.4mm*25.4mm copper pad areas

Characteristics

Fig 1 Static Characteristics

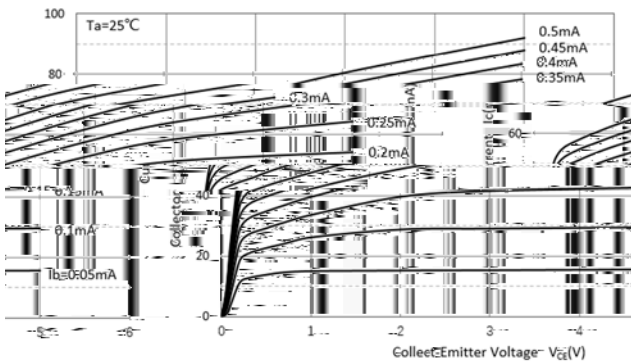


Fig 2 DC Current Gain Characteristics



Fig 3 Collector-Emitter Saturation Voltage

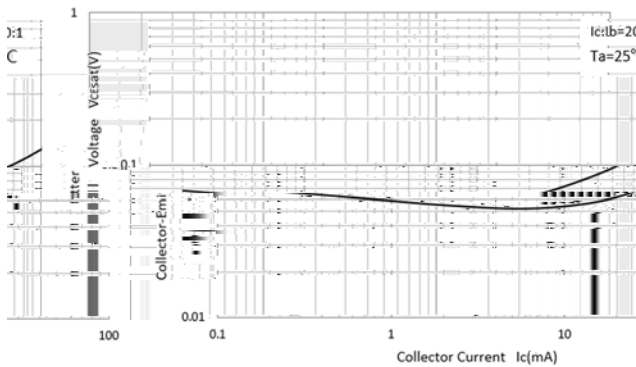
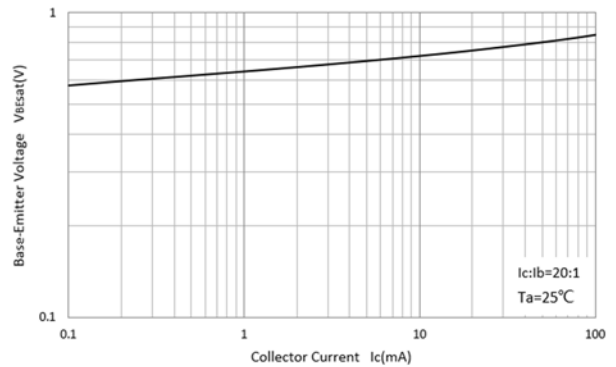


Fig 4 Base-Emitter Saturation Voltage





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Fig 5 Base-Emitter on Voltage

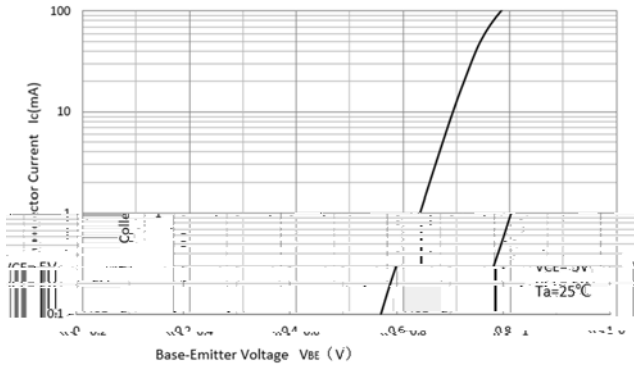


Fig 6 $C_{ob}/C_{ib}-V_{CB}/V_{EB}$

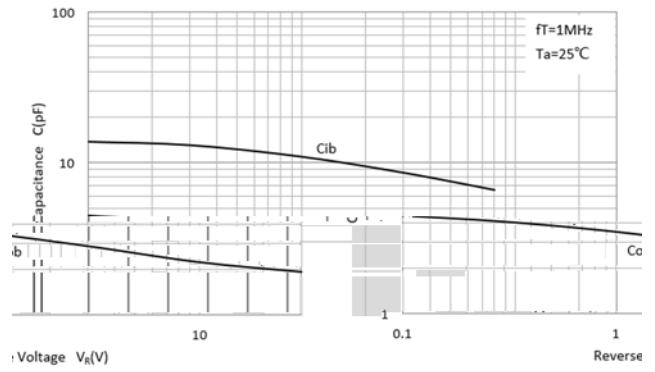
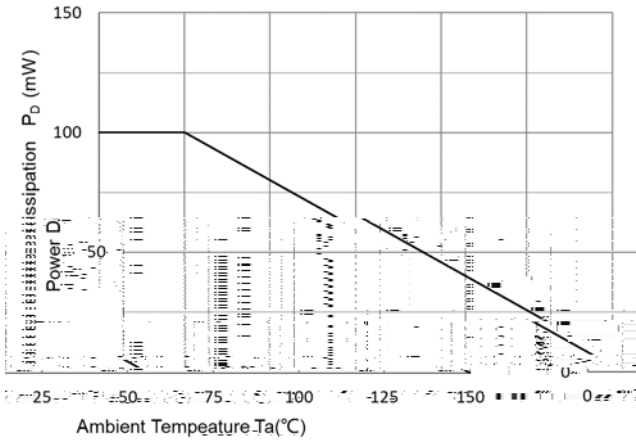


Fig 7 P_D - T_a Curve





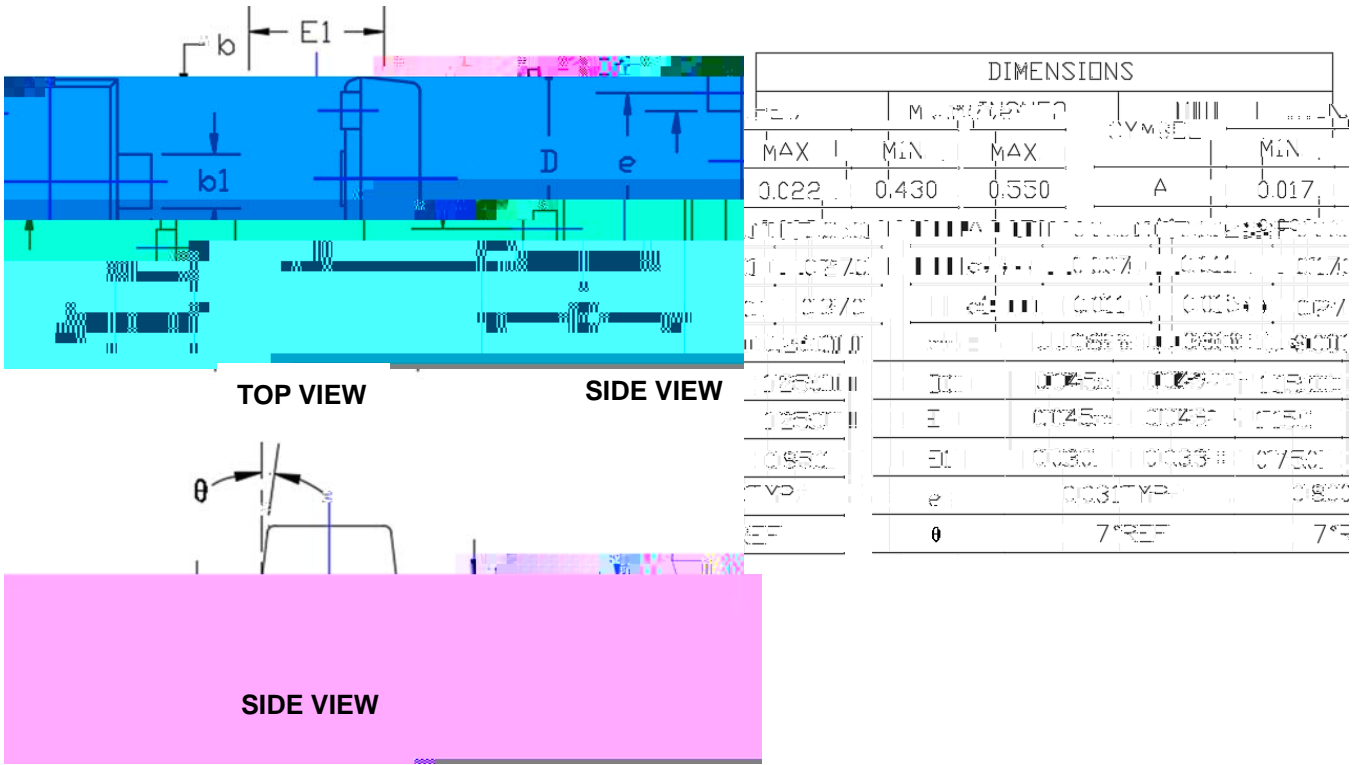
BC846AM3 THRU BC848CM3

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Ordering Information

Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BC846AM3 THRU BC848CM3	F2	Approximate 0.0013	8000	80000	320000	7" reel

Outline Dimensions



Suggested Pad Layout

