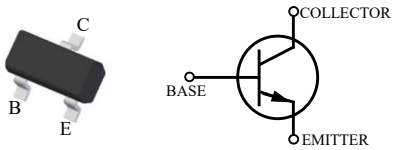
ABC847AH / ABC847BH / ABC847CH

NPN TRANSISTORS

FEATURES

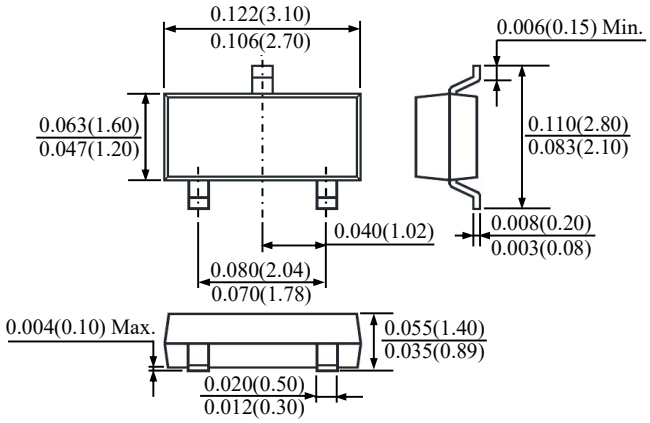
· AEC-Q101 qualified.

· Suffix "H" indicates Halogen-free parts, ex.ABC847AH.



B	Base
C	Collector
E	Emitter

SOT-23



Dimensions in inch and (millimeter)

Maximum Ratings(T_A=25 ℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	50	V
Collector Emitter Voltage	V_{CEO}	45	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	100	mA
Peak Collector Current	I_{CM}	200	mA
Power Dissipation	P_D	300	mW
Thermal Resistance from Junction to Ambient (Note 1)	$R_{\theta JA}$	417	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃

Note :

1. Device mounted on FR-4 substrate PC board, with minimum recommended pad layout.

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Electrical Characteristics(T_A=25 ℃ unless otherwise specified)

Parameter		Conditions	Symbol	Min.	Min.	Max.	Unit
DC Current Gain	A	V_{CE}=5V, I_C=2mA	h_{FE}	110	-	220	-
	B			200	-	450	
	C			420	-	800	
Collector Base Cutoff Current		V_{CB}=30V	I_{CBO}	-	-	15	nA
Collector Base Breakdown Voltage		I_C=100μA	$V_{(BR)CBO}$	50	-	-	V
Collector Emitter Breakdown Voltage		I_C=2mA	$V_{(BR)CEO}$	45	-	-	V
Emitter Base Breakdown Voltage		I_E=100μA	$V_{(BR)EBO}$	6	-	-	V
Collector Emitter Saturation Voltage		I_C=10mA, I_B=0.5mA	$V_{CE(sat)}$	-	-	0.25	V
		I_C=100mA, I_B=5mA		-	-	0.60	
Base Emitter Saturation Voltage		I_C=10mA, I_B=0.5mA	$V_{BE(sat)}$	-	0.7	-	V
		I_C=100mA, I_B=5mA		-	-	1.0	
Base Emitter On Voltage		V_{CE}=5V, I_C=2mA	$V_{BE(on)}$	0.58	-	0.70	V
		V_{CE}=5V, I_C=10mA		-	-	0.72	
Transition Frequency		V_{CE}=5V, I_C=10mA, f=100MHz	f_T	-	300	-	MHz
Collector Output Capacitance		V_{CB}=10V, f=1MHz	C_{ob}	-	-	6	pF
Input Capacitance		V_{EB}=0.5V, f=1MHz	C_{ib}	-	9	-	pF

RATINGS AND CHARACTERISTIC CURVES

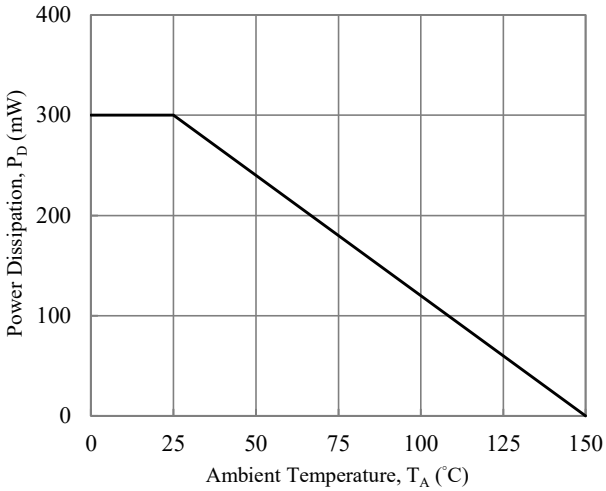

Fig. 1 Power Derating Curves

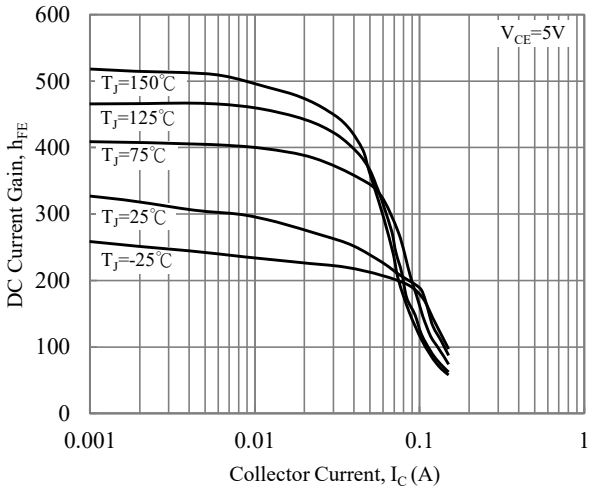

Fig. 2 Current Gain vs. Collector Current

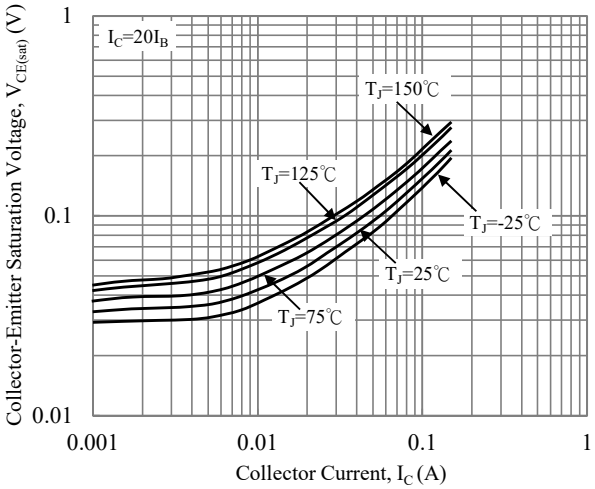

Fig. 3 Collector-Emitter Saturation Voltage vs. Collector Current

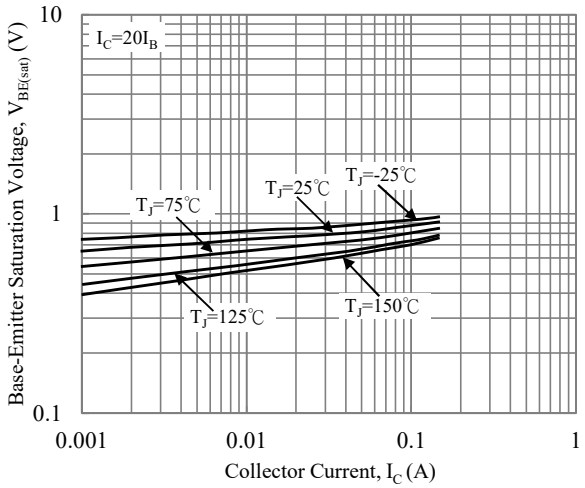

Fig. 4 Base-Emitter Saturation Voltage vs. Collector Current

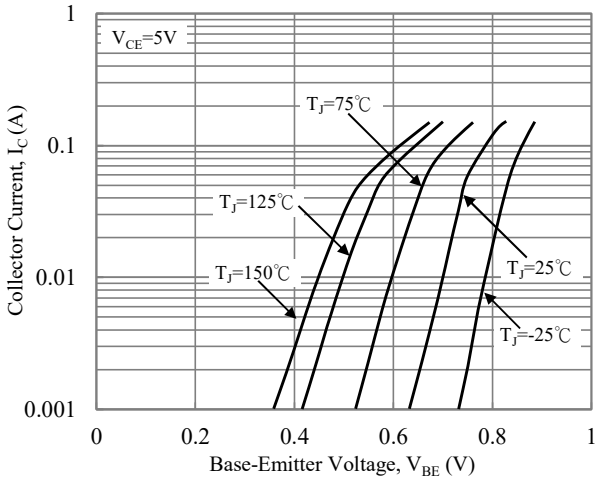

Fig. 5 Base-Emitter Voltage vs. Collector Current

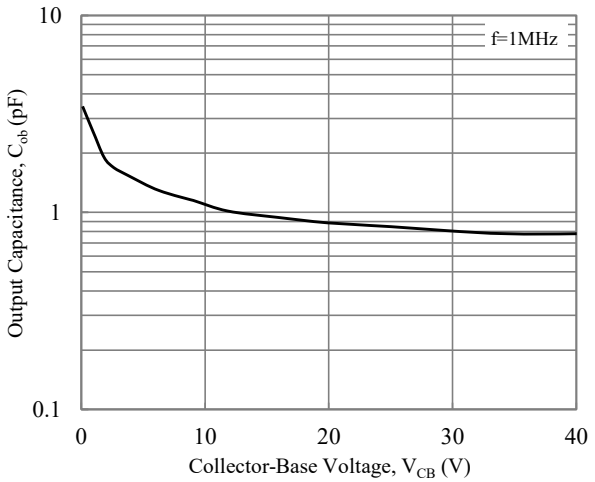

Fig. 6 Output Capacitance

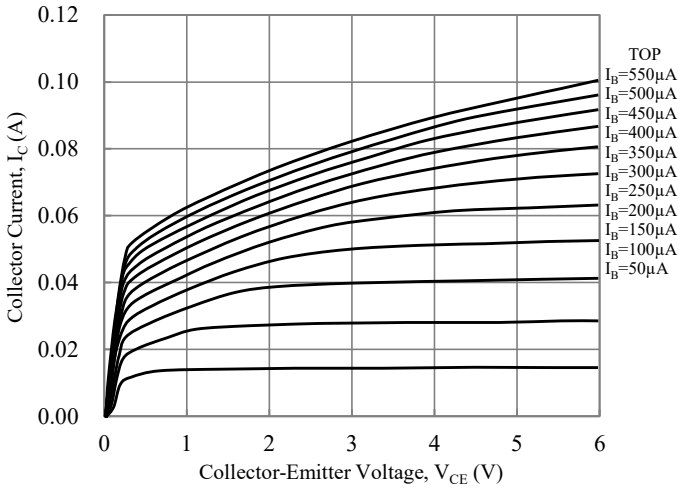

Fig. 7 Output Characteristics Curves

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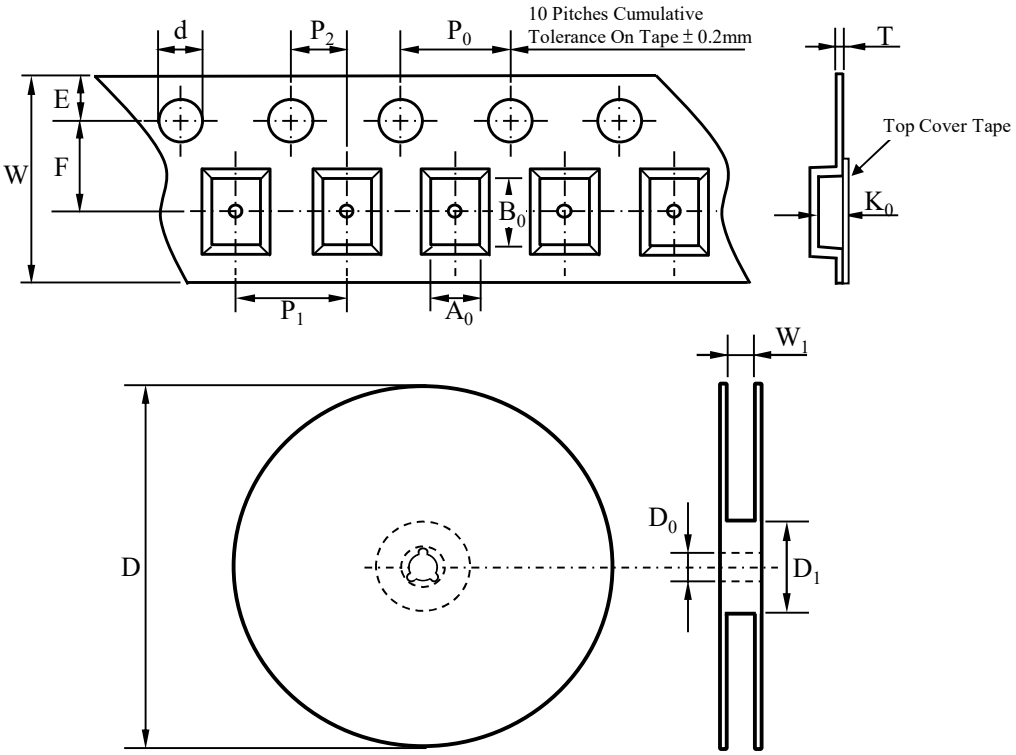
TAPE & REEL SPECIFICATION



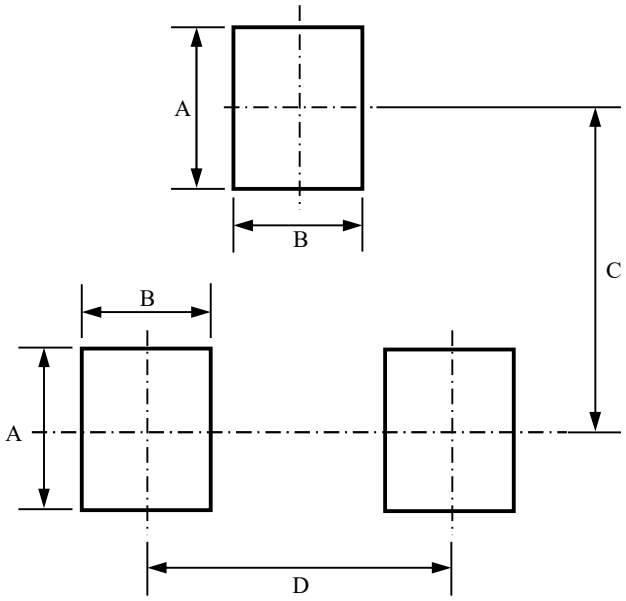
Item	Symbol	SOT-23
Carrier width	A_0	*
Carrier length	B_0	
Carrier depth	K_0	
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178.00 ± 2.00
Feed hole width	D_0	13.00 ± 0.50
Reel inner diameter	D_1	MIN. 50.00
Sprocke hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.10
Sprocke hole pitch	P_0	4.00 ± 0.10
Punch hole pitch	P_1	4.00 ± 0.10
Embossment center	P_2	2.00 ± 0.10
Overall tape thickness	T	0.20 ± 0.05
Tape width	W	8.00 ± 0.20
Reel width	W1	MAX. 14.50

Note *: A_0, B_0, and K_0 are determined by component size. The clearance between the components and the cavity must be within 0.05 mm min. to 0.5 mm

ORDER INFORMATION

Part Number	Marking Code	Reel Size	Quantity
ABC847AH	1E	7"	3,000
ABC847BH	1F		
ABC847CH	1G		

SUGGESTED SOLDER PAD LAYOUT



Unit :mm

PACKAGE	A	B	C	D
SOT-23	1.00	0.80	2.00	1.90