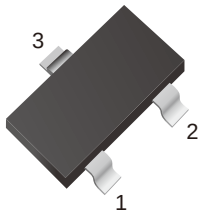
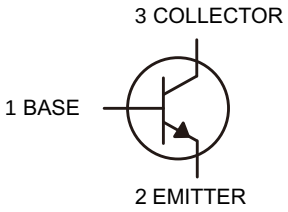
LT846AW/BW/CW

NPN General Purpose Amplifier

Features

- Epoxy meets UL 94 V-0 flammability rating
- Small Outline Surface Mount Package
- Low Current Leakage
- For high-speed switching applications
- Tape specification: Conductive
- Lead free in comply with EU RoHS 2011/65/EU directives





Ordering Information

Part Number	Shipping	Reel
LT846AW/BW/CW-TR3	3000PCS Tape&Reel	7 inchs
LT846AW/BW/CW-TR12	12000PCS Tape&Reel	13 inchs

Maximum Ratings （Ta = 25℃）

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	65	
V_{EBO}	Emitter-Base Voltage	6	
I_C	Collector Current –Continuous	100	mA
P_C	Collector Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	833	℃/W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	55~+150	℃

Electrical Characteristics (Ta=25℃)

Symbol	Parameter		Test Conditions	Min	Typ	Max	Units
V_{CBO}	Collector-base breakdown voltage		I_C=10μA,I_E=0	80			V
V_{CEO}	Collector-emitter breakdown voltage		I_C=10mA, I_B=0	65			
V_{EBO}	Emitter-base breakdown voltage		I_E=1uA, I_C=0	6			
I_{CBO}	Collector cut-off current		V_{CB}=30 V,I_E=0			15	nA
I_{EBO}	Emitter cut-off current		V_{EB}=5 V , I_C=0			0.1	μA
h_{FE}	DC Current Gain	LT846AW	V_{CE}=5V,I_C=2mA	110		220	
		LT846BW		200		450	
		LT846CW		420		800	
$V_{CE(sat)}$	Collector-emitter saturation voltage		I_C=10mA,I_B=0.5mA			0.25	V
			I_C=100mA,I_B=5mA			0.60	
$V_{BE(on)}$	Base-emitter voltage		V_{CE}=5V,I_C=2mA	0.58		0.7	V
			V_{CE}=5V,I_C=10mA			0.77	
f_T	Transition frequency		V_{CE}=5V, I_C=10mA f=100MHz	100			MHz
C_{ob}	Collector output capacitance		V_{CB}=10V,f=1MHz			4.5	pF

Characteristics Curves

Fig.1 Static Characteristic

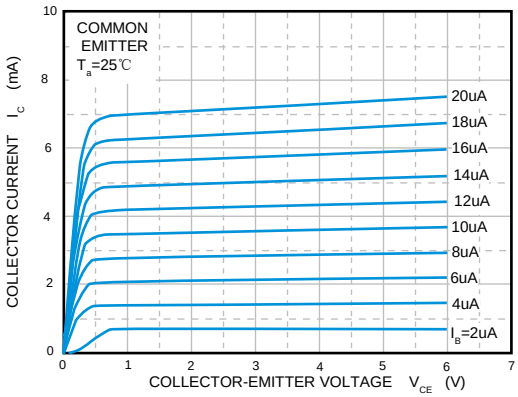


Fig.2 h_{FE} vs I_C

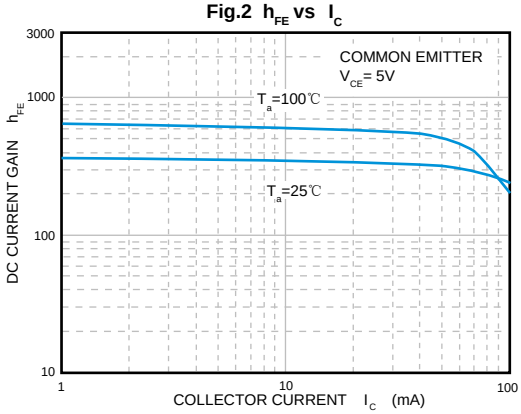


Fig.3 V_{BEsat} vs I_C

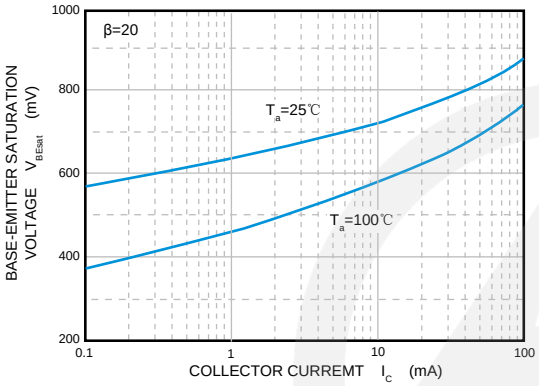


Fig.4 V_{CEsat} vs I_C

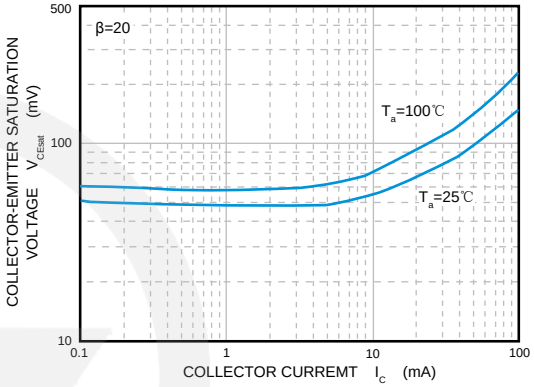


Fig.5 I_C vs V_{BE}

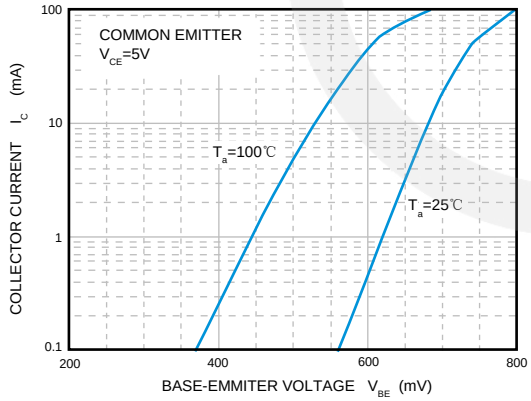


Fig.6 f_T vs I_C

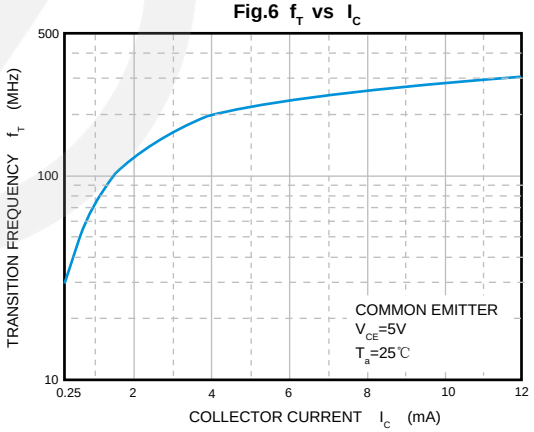


Fig.7 C_{ob}/ C_{ib} vs V_{CB}/ V_{EB}

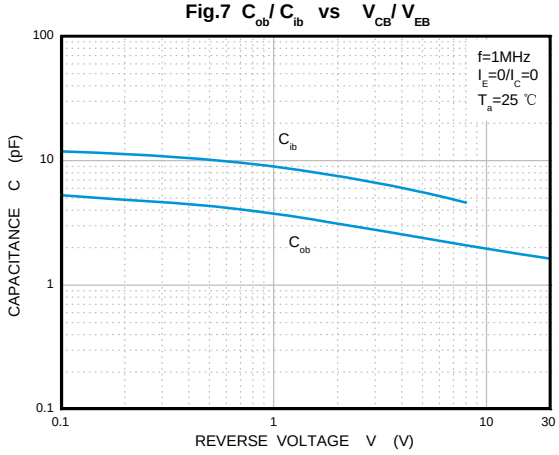
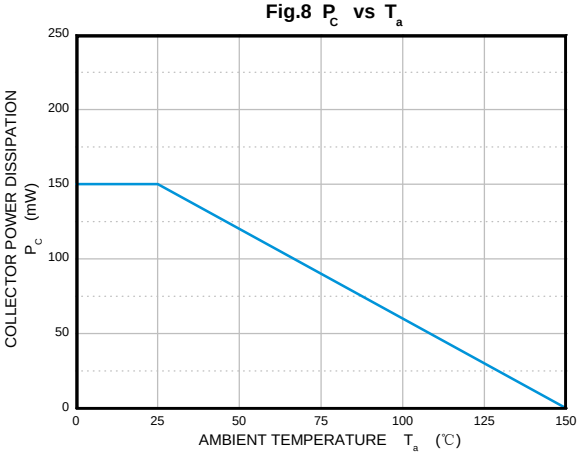
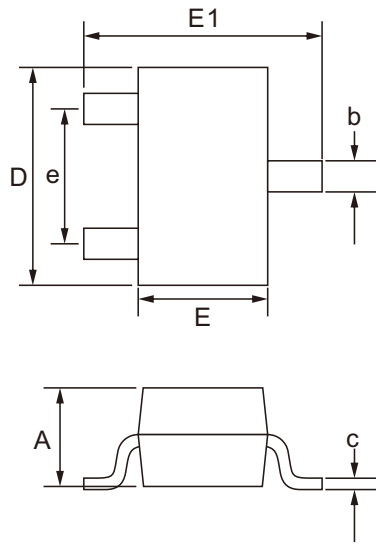


Fig.8 P_C vs T_a



SOT-323 Package Outline



Unit: mm

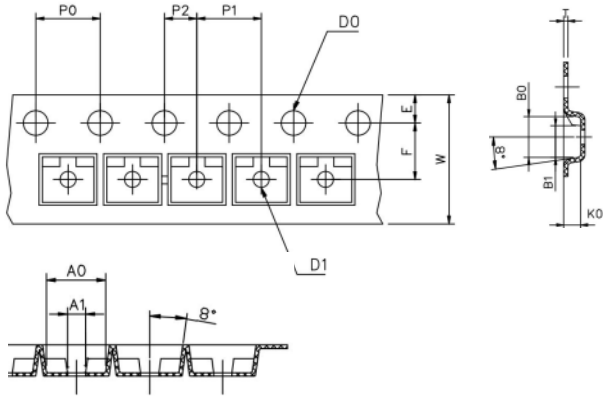
SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.800	1.000
b	0.200	0.400
D	1.800	2.200
E	1.150	1.350
E1	2.150	2.450
C	0.080	0.250
e	1.200	1.400

Marking

Type number	Marking code
LT846AW	1A
LT846BW	1B
LT846CW	1C

Carrier Tape Dimensions

Unit：mm

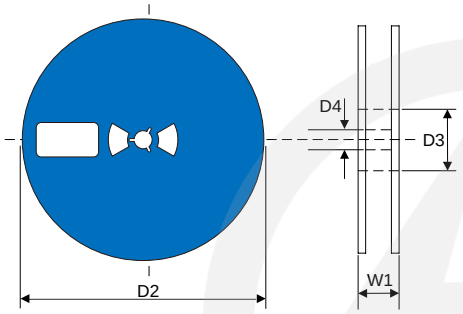


Symbol	Spec	Symbol	Spec
A0	3.15±0.10	P0	4.00±0.05
A1	1.09±0.10	P1	4.00±0.02
B0	2.77±0.10	W	8.00±0.10
B1	2.15±0.10	E	1.75±0.10
K0	1.22±0.10	F	3.50±0.05
D0	1.50±0.10	T	2.00±0.10
D1	1.00±0.10		

Reel Dimensions

Unit：mm

7” Reel

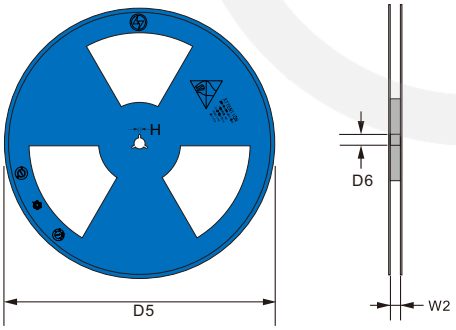


D2	Φ178.0±2.0
D3	Φ50
D4	13.0±0.5
W1	12±0.5
Quantity: 3000PCS	

Reel Dimensions

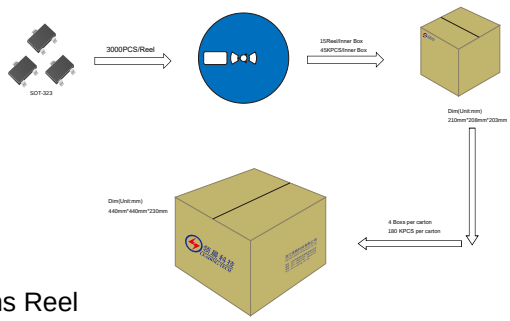
Unit：mm

13” Reel

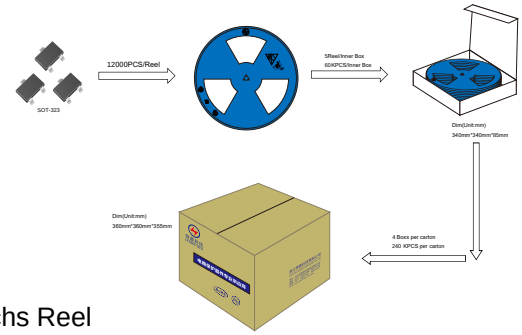


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±0.5
Quantity: 12000PCS	

Packaging



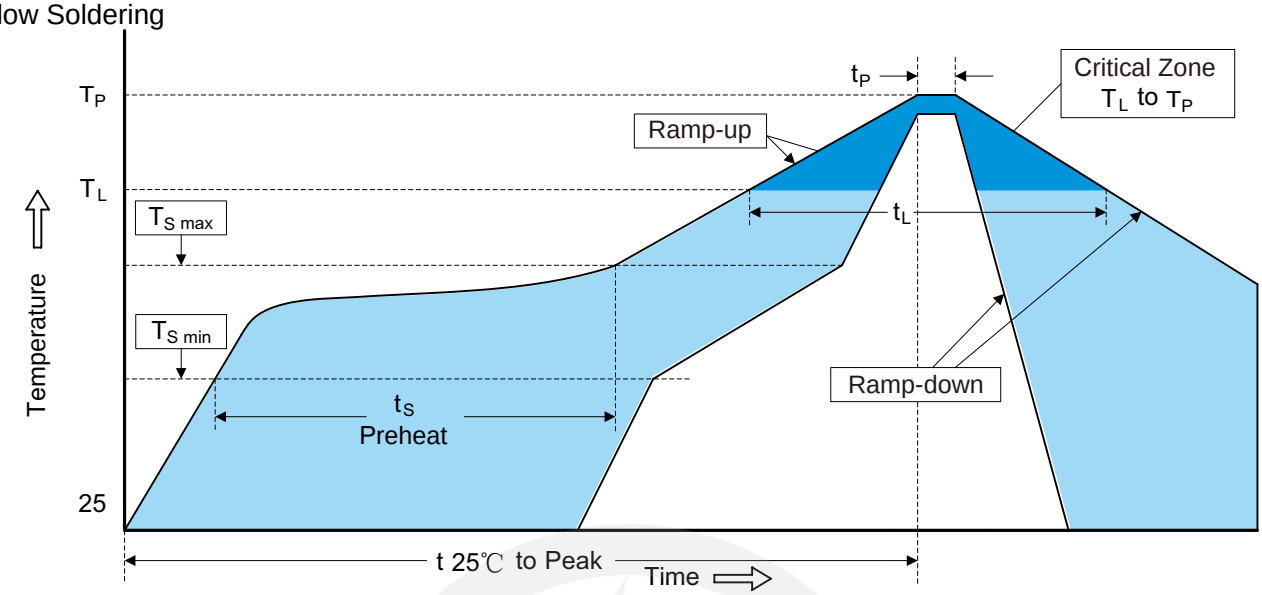
7 inchs Reel



13 inchs Reel

Recommended Soldering Conditions

Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_S)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

Important Notice and Disclaimer

Leading-Tech reverses the right to make changes to this document and its products and specifications at any time without notice.

Customers should obtain and confirm the latest product information and specifications before final design,purchase or use.

Leading-Tech makes no warranty,representation or guarantee regarding the suitability of its products for any particular purpose,not does Leading-Tech assume any liability for application assistance or customer product design.

Leading-tech does not warrant or accept any liability with products which are purchase or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of Leading-Tech.

Leading-Tech products are not authorized for use as critical components in life support devices or systems without express written approval of Leading-tech.

Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2024.10.29	2024.10.29	3.0	New File	/	Ding	
02	2025.06.11	2025.06.11	3.1	Update packaging information	/	Ding	