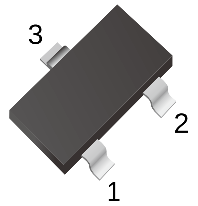
Transistor(NPN)

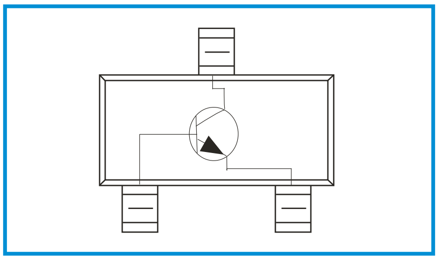
Features

- Complementary to LT856/LT857/LT858
- Power Dissipation of 200mW
- Ideally suited for automatic insertion
- For switching and AF amplifier applications



1. BASE
2. EMITTER
3. COLLECTOR

Functional Diagram



Mechanical Data

- Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

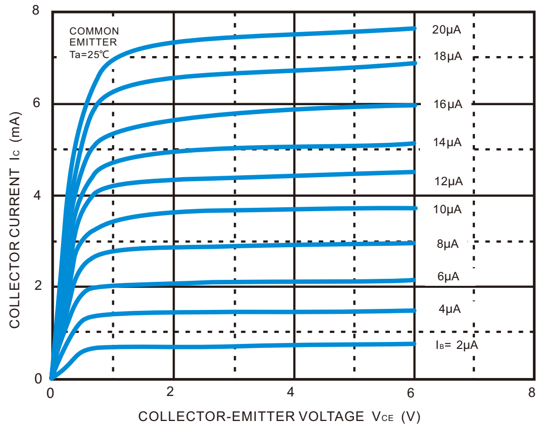
Maximum Ratings (Ta=25℃ unless otherwise noted)

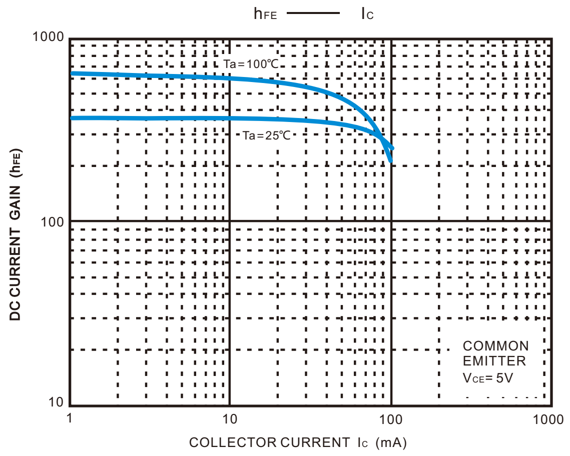
Parameters	Symbol		Value	Unit
Collector-Base Voltage	V_{CBO}	LT846 LT847 LT848	80 50 30	V
Collector-Emitter Voltage	V_{CEO}	LT846 LT847 LT848	65 45 30	V
Emitter -Base Voltage	V_{EBO}		6	V
Collector Current-Continuous	I_C		100	mA
Collector Power Dissipation	P_C		200	mW
Junction Temperature	T_j		150	℃
Storage Temperature	Tstg		-55-+150	℃
Thermal resistance From junction to ambient	$R_{\theta JA}$		625	℃/W

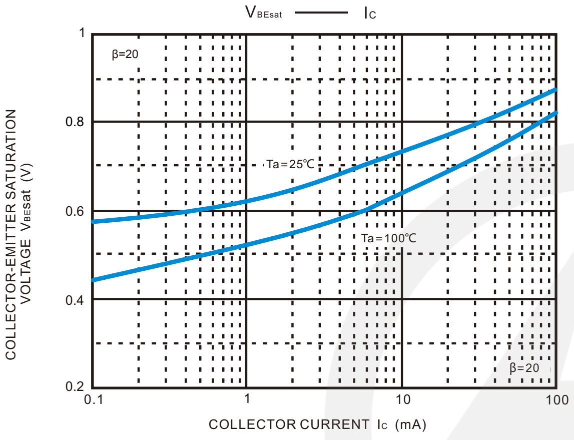
Electrical characteristics (Ta=25℃ unless otherwise specified)

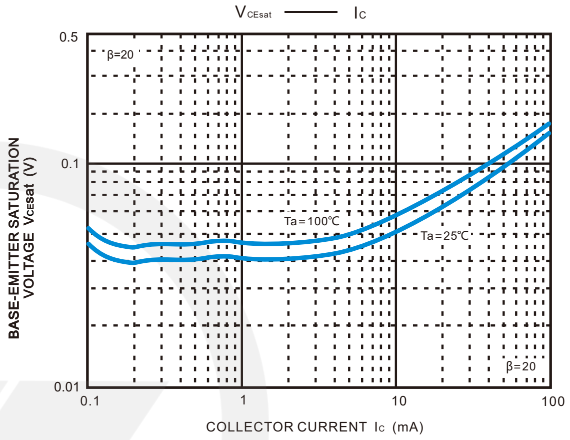
Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=10uA, I_E=0 LT846 LT847 LT848	80 50 30		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=10mA, I_B=0 LT846 LT847 LT848	65 45 30		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=10uA, I_C=0	6		V
Collector cut-off current	I_{CBO}	V_{CB}=70V, I_E=0 LT846 V_{CB}=50V, I_E=0 LT847 V_{CB}=30V, I_E=0 LT848		100	nA
Collector cut-off current	I_{CEO}	V_{CE}=60V, I_B=0 LT846 V_{CE}=45V, I_B=0 LT847 V_{CE}=30V, I_B=0 LT848		100	nA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0		100	nA
DC current gain	h_{FE}	V_{CE}=5V, I_C=2mA LT846A;LT847A;LT848A LT846B;LT847B;LT848B LT847C;LT848C	110 200 420	220 450 800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=100mA, I_B=5mA		0.50	V
Base -emitter saturation voltage	$V_{BE(sat)}$	I_C=100mA, I_B=5mA		1.10	V
Transition frequency	f_T	V_{CE}=5V, I_C=10mA,f=100MHz	100		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, f=1MHz		4.5	pF

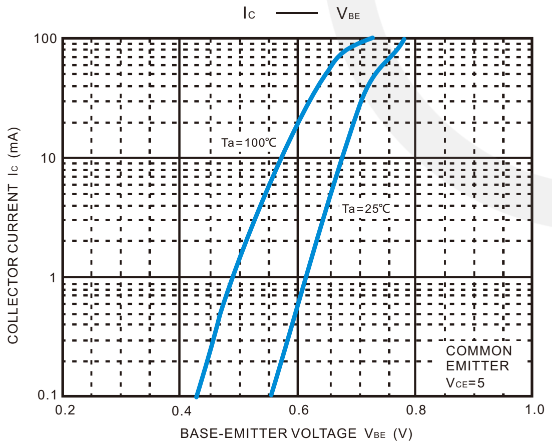
Typical Characteristics

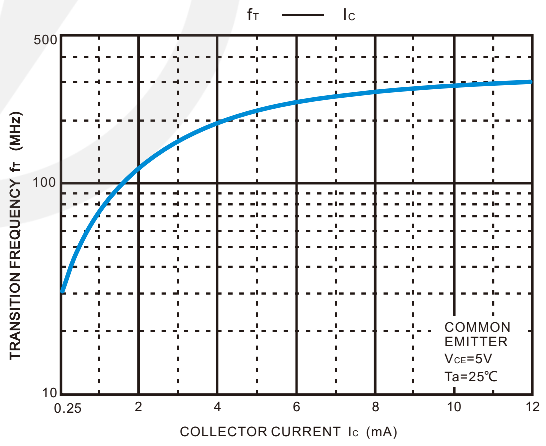


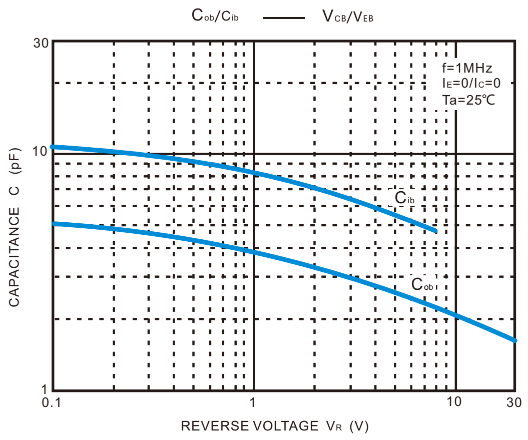


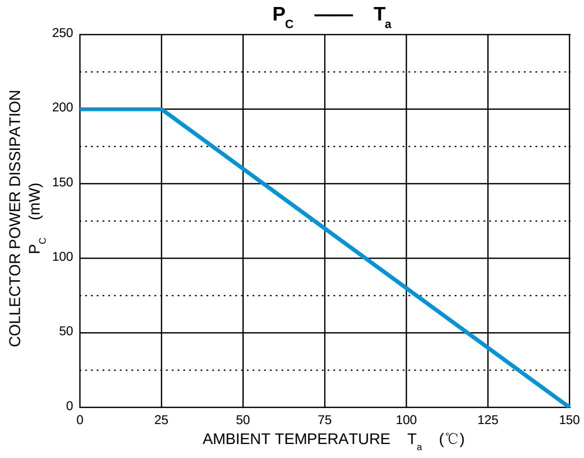




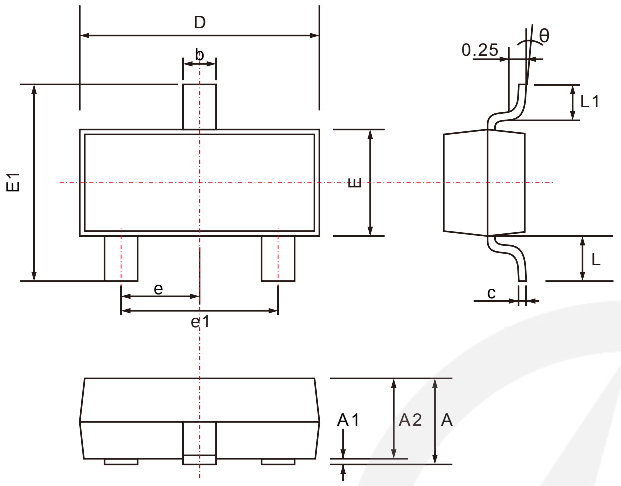








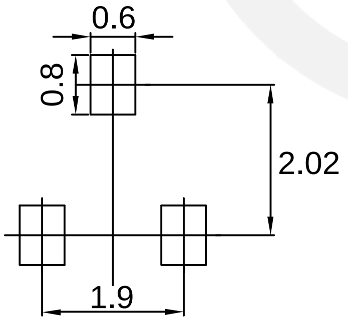
SOT-23 Package Outline



Unit: mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.200
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.200
D	2.700	3.100
E	1.200	1.400
E1	2.200	3.000
e	0.950 TYP.	
e1	1.750	2.050
L	0.550 TYP.	
L1	0.300	0.500
θ	0°	8°

SOT-23 Suggested Pad Layout



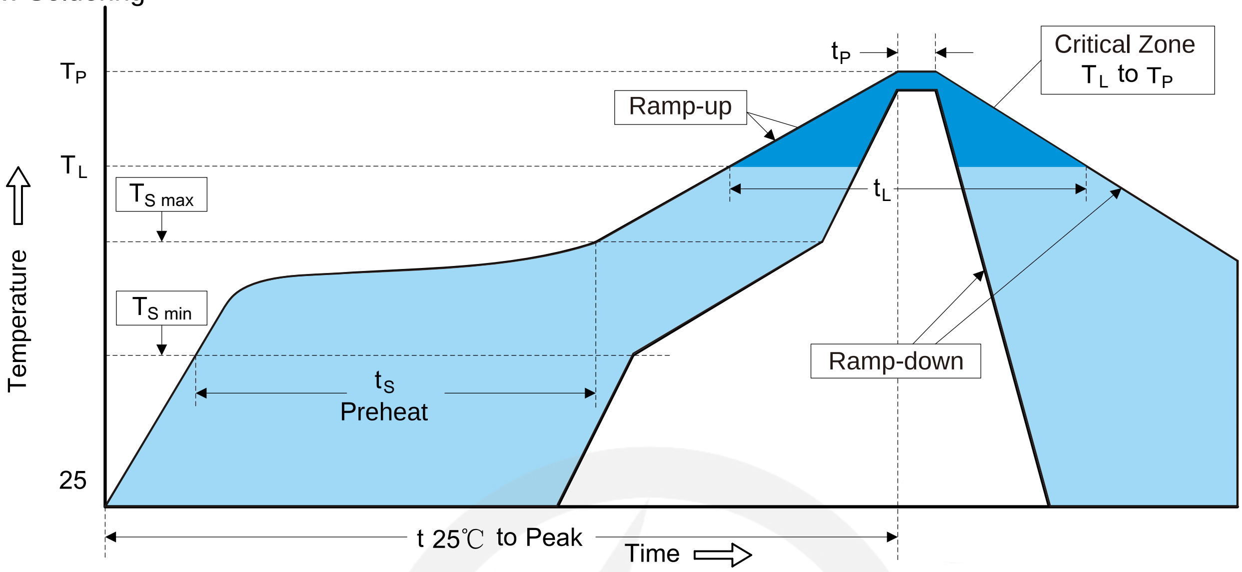
Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm
3.The pad layout is for reference purpose only.

Marking

LT846A=1A	**LT846B=1B**	
LT847A=1E	**LT847B=1F**	**LT847C=1G**
LT848A=1J	**LT848B=1K**	**LT848C=1L**

Recommended Soldering Conditions

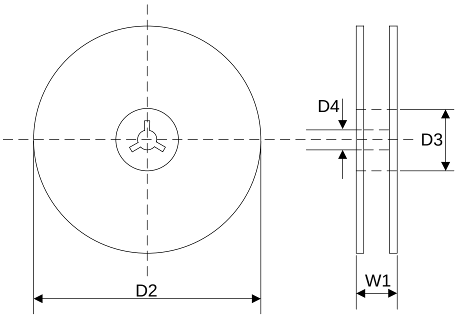
Reflow Soldering



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.

7” Reel



D2	Φ178.0±2.0
D3	Φ50.0Min.
D4	Φ13.0±0.5
W1	16.0±2.0
Quantity: 3000PCS	