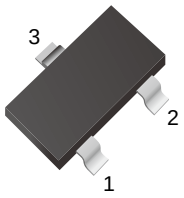
LTSS8050HP/Q

Transistor(NPN)

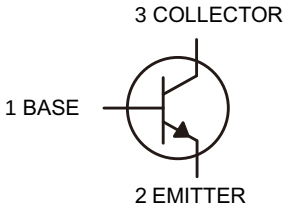
Features

- Collector current I_C=1.5A
- Power amplifier applications
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Data

- Case: SOT-23
- Approx. Weight: 8.1mg



Ordering Information

Part Number	Shipping	Reel
LTSS8050HP/Q-TR3	3000PCS Tape&Reel	7 inchs
LTSS8050HP/Q-TR12	12000PCS Tape&Reel	13 inchs

Absolute Maximum Ratings (Ta=25℃)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	1.5	A
P_C	Collector Power Dissipation	300	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	400	℃/W
T_J ,T_{stg}	Operation Junction And Storage Temperature Range	-55 to +150	℃

Electrical Characteristics (Ta=25℃ unless otherwise specified)

Symbol	Parameter	Test conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=0.1mA, I_E=0	50			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=2mA, I_B=0	50			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=100μA, I_C=0	6			V
V_{BE}	Base-Emitter Voltage	V_{CE}=1V,I_C=10mA		0.66	1	V
I_{CBO}	Collector cut-off current	V_{CB}=35V, I_E=0			100	nA
I_{EBO}	Emitter cut-off current	V_{EB}=6V, I_C=0			100	nA
$h_{FE}(1)$	DC current gain(1)	V_{CE}=1V, I_C=100mA	100		320	
$h_{FE}(2)$	DC current gain(2)	V_{CE}=1V, I_C=800mA	40			
$V_{CE(sat)}$	Collector-emitter saturation voltage	I_C=800mA, I_B=80mA			0.5	V
$V_{BE(sat)}$	Base-emitter saturation voltage				1.2	V

$h_{FE}(1)$ Classifications & Marking

Rank	LTSS8050HP	LTSS8050HQ
$h_{FE}(1)$	100~200	160~320
Marking	KEO	KEY

Characteristics Curves

Fig.1 HFE-Ic Vce=1V

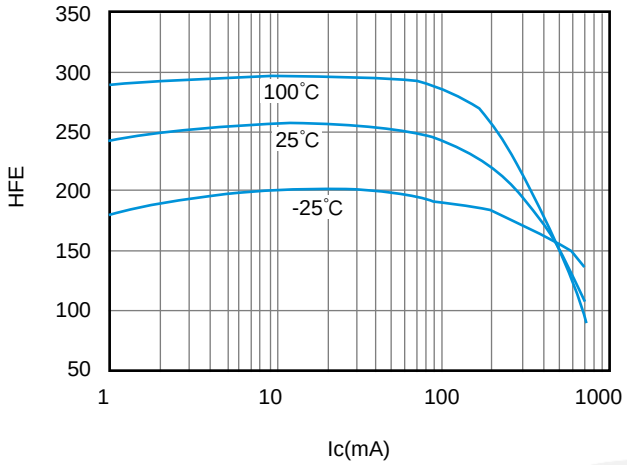


Fig.2 Vcesat-Ic Ic/Ib=10

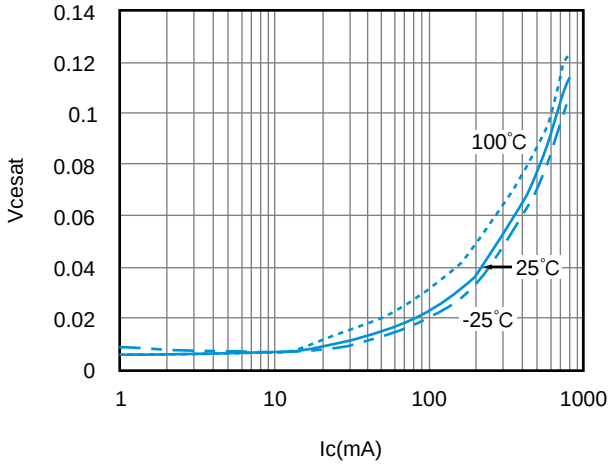


Fig.3 Ic-Vbe

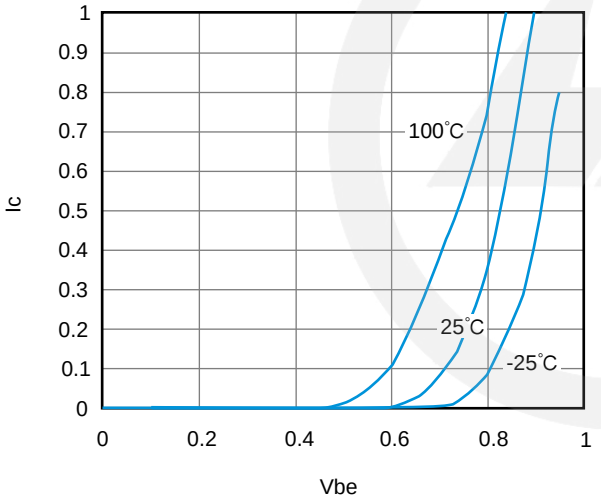
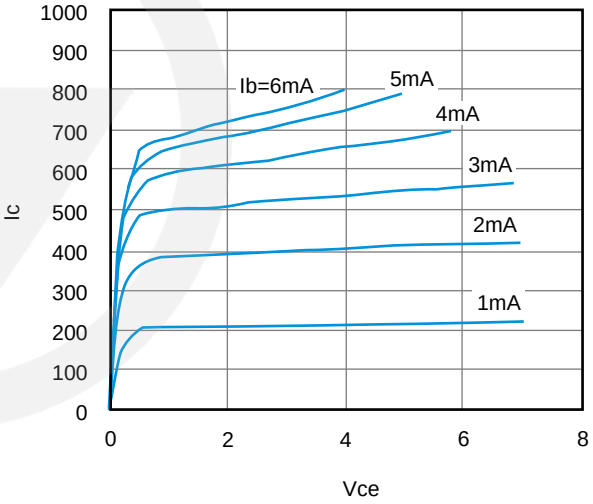
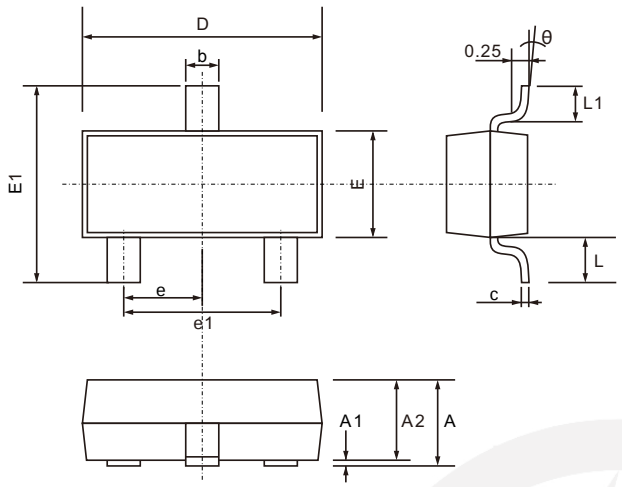


Fig.4 Ic-Vce



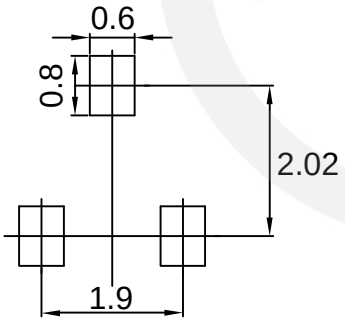
SOT-23 Package Outline



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	2.600
e	0.950 TYP.	
e1	1.750	2.050
L	0.550 TYP.	
L1	0.300	0.500
θ	0°	8°

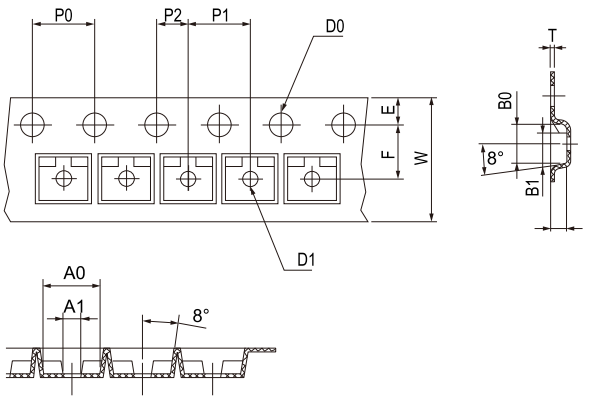
SOT-23 Suggested Pad Layout



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

Carrier Tape Dimensions

Unit：mm

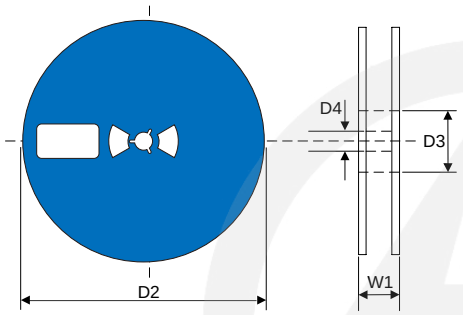


Symbol	Spec	Symbol	Spec
A0	3.15±0.10	P0	4.00±0.05
A1	1.09±0.10	P1	4.00±0.02
B0	2.77±0.10	W	8.00±0.10
B1	2.15±0.10	E	1.75±0.10
K0	1.22±0.10	F	3.50±0.05
D0	1.50±0.10	T	2.00±0.10
D1	1.00±0.10		

Reel Dimensions

Unit：mm

7” Reel

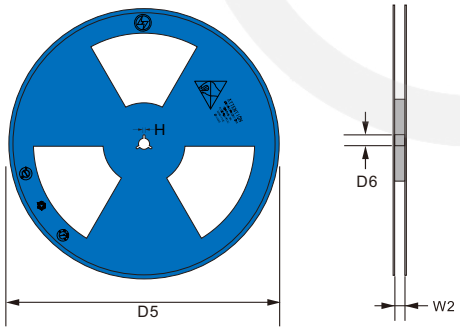


D2	Φ178.0±2.0
D3	Φ50
D4	13.0±0.5
W1	12±0.5
Quantity: 3000PCS	

Reel Dimensions

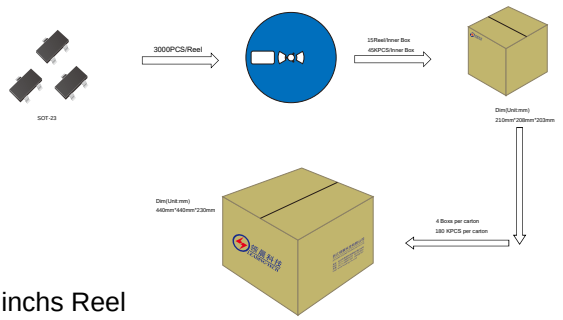
Unit：mm

13” Reel

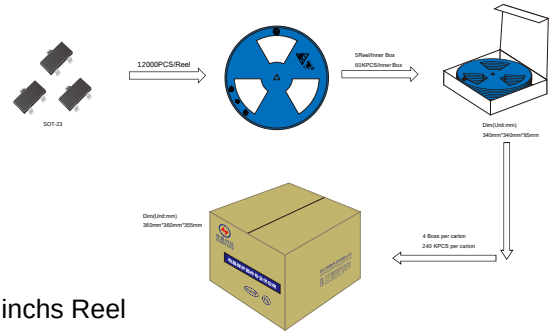


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 12000PCS	

Packaging



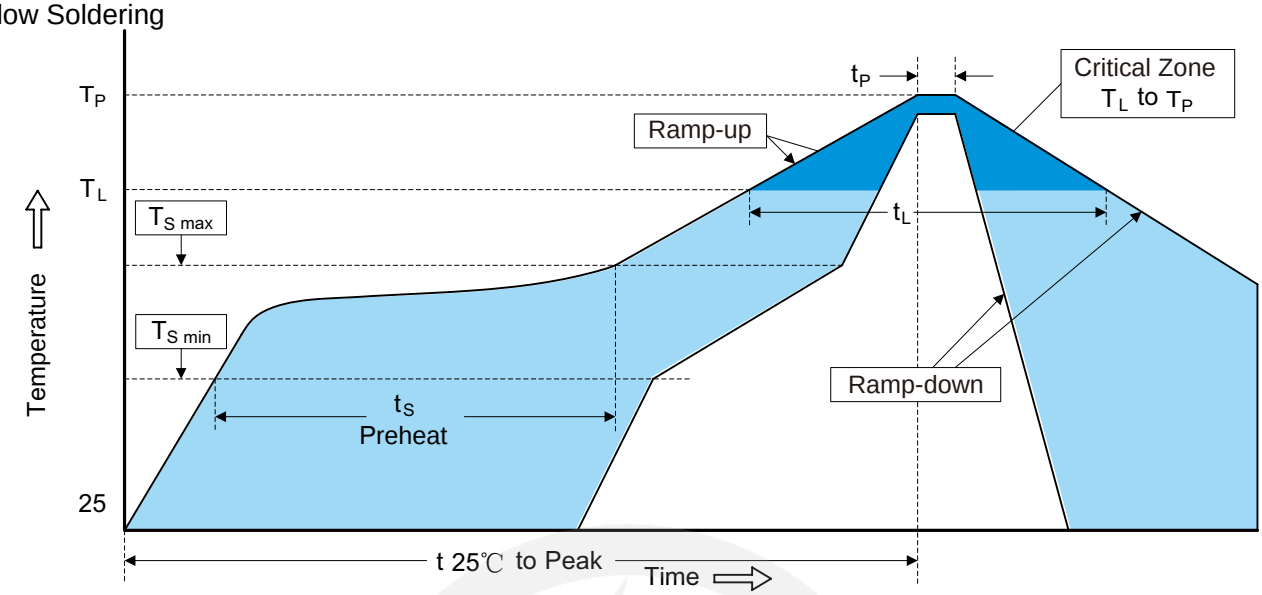
7 inchs Reel



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.

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Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision Content	Revision Reason	Revision Person	Note
01	2025.07.06	2025.07.06	3.0	New file	/	Ding	
02	2026.03.06	2026.03.06	3.1	Package outline E1(max)=2.6mm	/	Ding	