

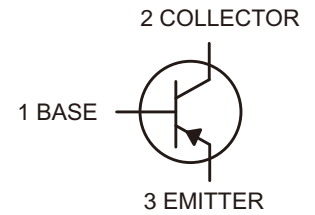
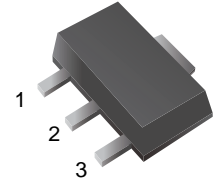
Transistor (PNP)

Features

- Low collector-emitter saturation voltage
- High collector current capability
- High collector current gain
- High efficiency due to less heat generation
- Smaller required Printed-Circuit Board (PCB) area
- Lead free in comply with EU RoHS 2011/65/EU directives

Machanical Data

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



Ordering Information

Part Number	Marking	Shipping	Reel
LTA4310-TR1	A4310	1000PCS Tape&Reel	7 inchs
LTA4310-TR3	A4310	3000PCS Tape&Reel	13 inchs

Maximum Ratings ($T_a=25$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector– Base Voltage	V_{CBO}	-100	V
Collector– Emitter Voltage	V_{CEO}	-60	V
Emitter– Base Voltage	V_{EBO}	-7	V
Collector Current — Continuous	I_C	-4.3	A
Peak Pulse Collector Current	I_{CM}	-15	A
Collector Power Dissipation	P_C	0.55	W
Thermal Resistance From JunctionTo Ambient	R_{thJA}	225	°C/W
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55~ +150	°C

Electrical Characteristics ($T_a=25$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_c = -100\mu A, I_E = 0$	-100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_c = -10mA, I_B = 0$	-60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -100\mu A, I_c = 0$	-7			V
Collector cut-off current	I_{CBO}	$V_{CB} = -80V, I_E = 0$			-30	nA
Collector cut-off current	I_{CEO}	$V_{CE} = -60V, I_B = 0$			-10	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -6V, I_c = 0$			-30	nA
DC current gain	$h_{FE(1)}$	$V_{CE} = -1V, I_c = -10mA$	100			
	$h_{FE(2)}$	$V_{CE} = -1V, I_c = -2A$	100		300	
	$h_{FE(3)}$	$V_{CE} = -1V, I_c = -5A$	45			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = -0.1A, I_B = -10mA$			-20	mV
		$I_c = -1A, I_B = -100mA$			-65	mV
		$I_c = -2A, I_B = -200mA$			-110	mV
		$I_c = -5A, I_B = -500mA$			-240	mV
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_c = -5A, I_B = -500mA$			-1.05	V
Base-emitter voltage	$V_{BE(ON)}$	$V_{CE} = -1V, I_c = -5A$			-0.95	V
Transition frequency	f_T	$V_{CE} = -10V, I_c = -100mA, f=50MHz$		120		MHz

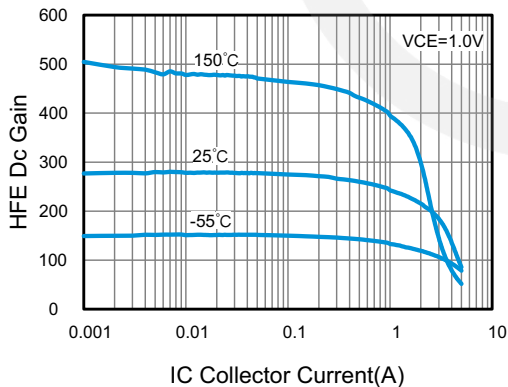
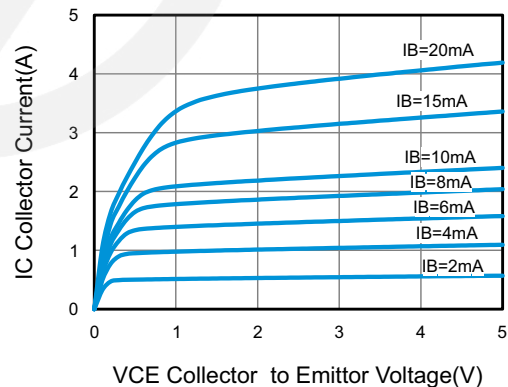
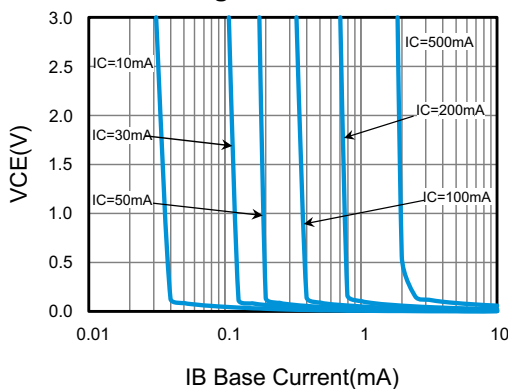
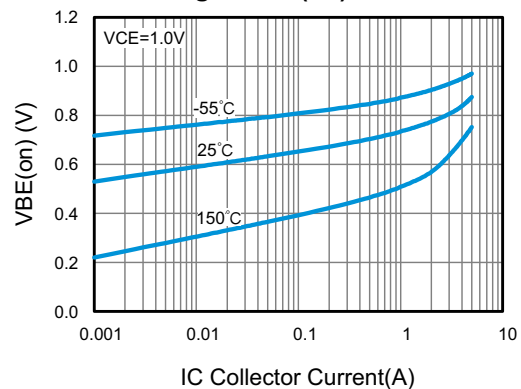
Characteristics Curves
Fig 1. HFE vs. IC

Fig 2. IC vs. VCE

Fig 3. VCE vs. IB

Fig 4. VBE(on) vs. IC




Fig 5. VBE(sat) vs. IC

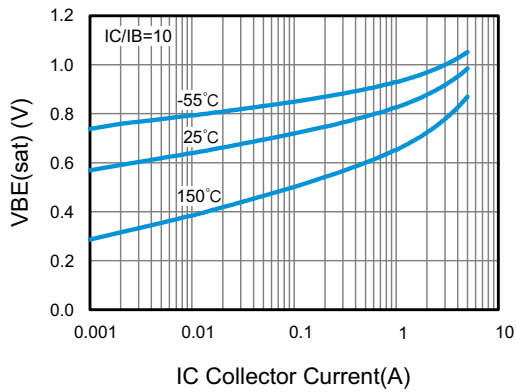


Fig 6. VCE(sat) vs. IC

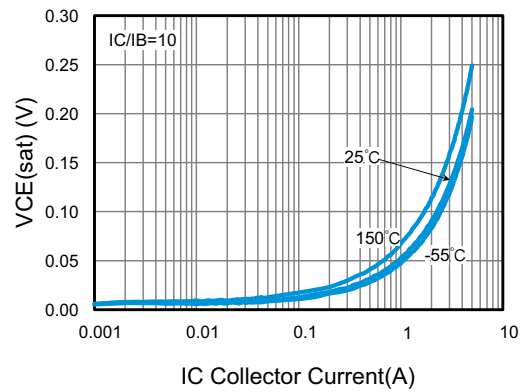
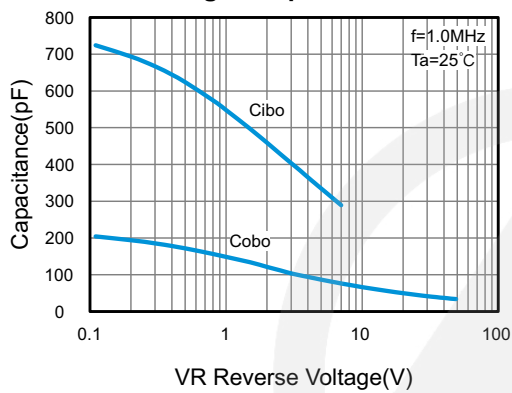
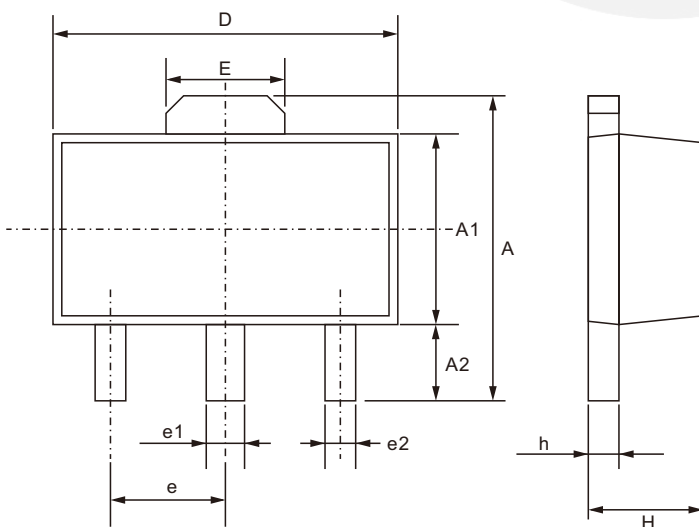


Fig 7. Capacitance

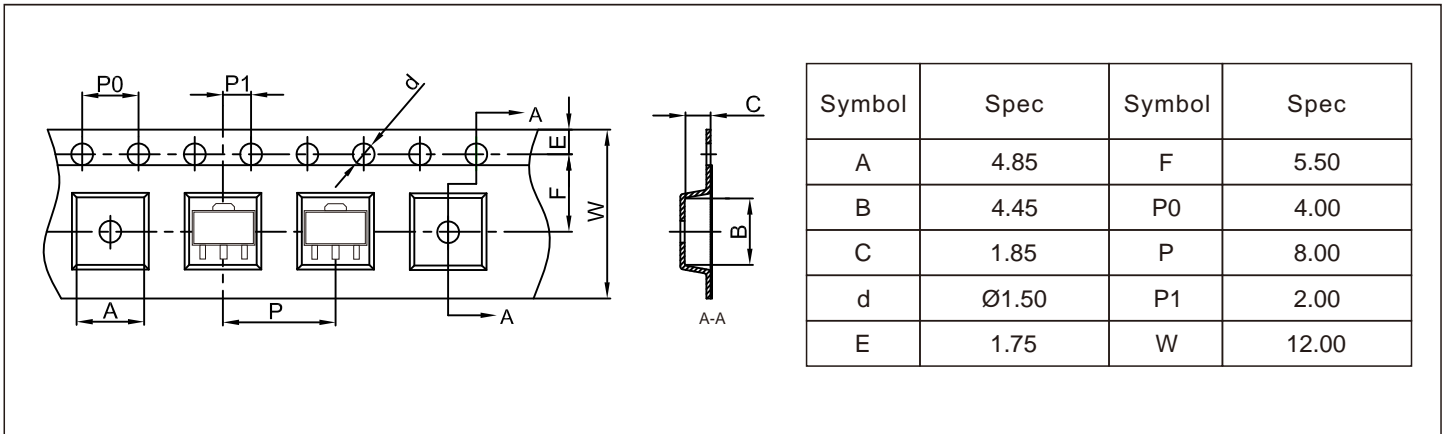
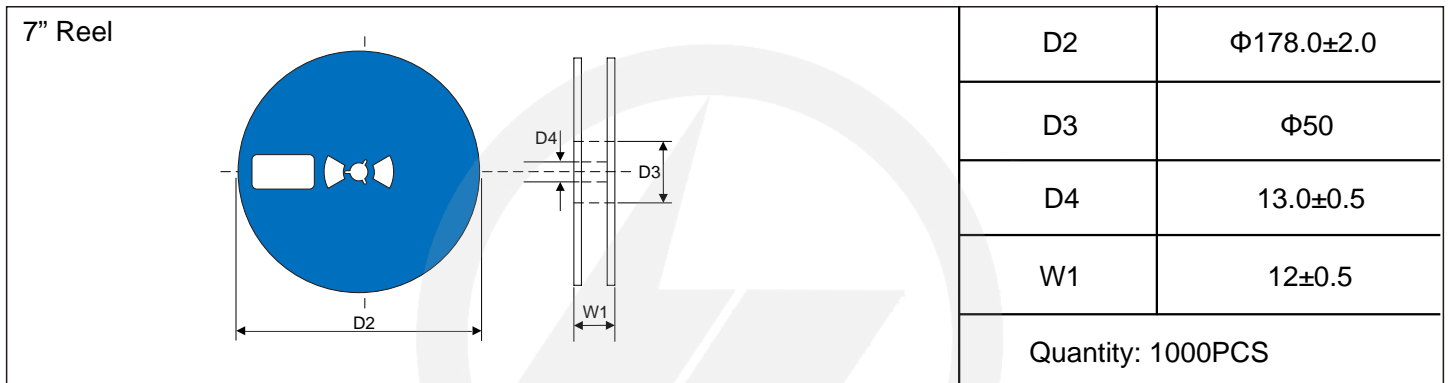
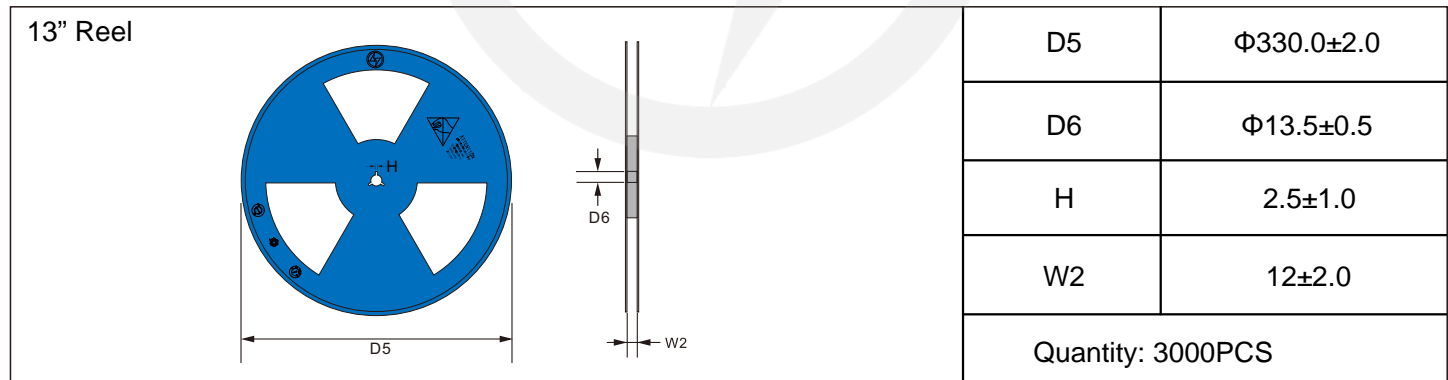
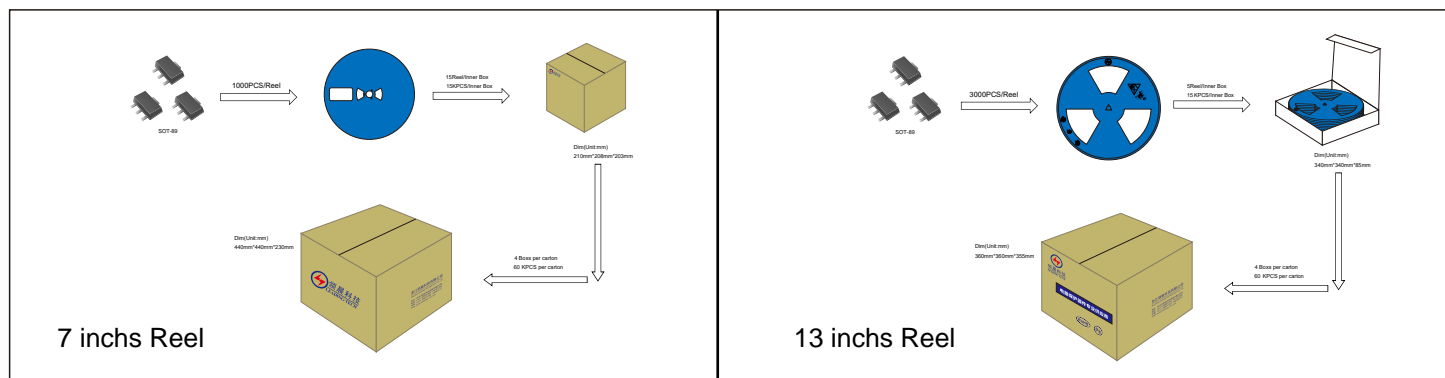


SOT-89 Package Outline



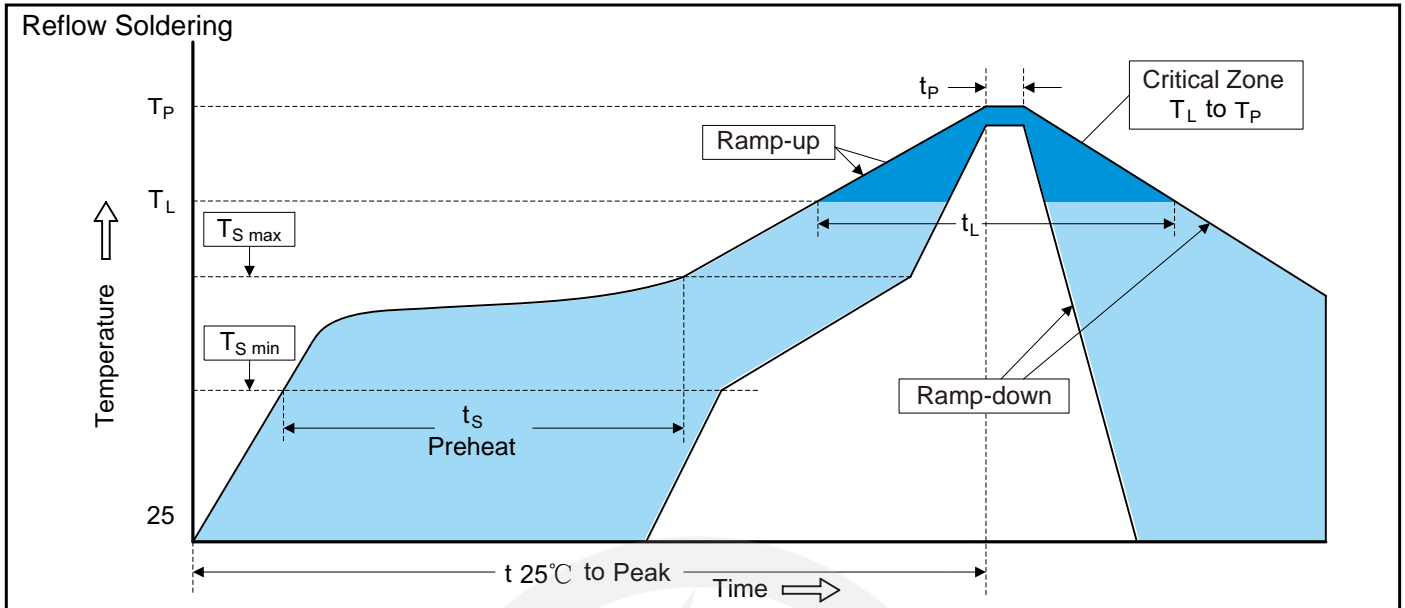
Unit: mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	3.750	4.250
A1	2.400	2.600
A2	0.950	1.050
D	4.400	4.600
E	1.500	1.600
e1	0.470	0.530
e2	0.350	0.450
e	1.500 TYP.	
H	1.400	1.600
h	0.300	0.500

Carrier Tape Dimensions
Unit : mm

Reel Dimensions
Unit : mm

Reel Dimensions
Unit : mm

Packaging




Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	
-Temperature Min ($T_{S\ min}$)	150°C
-Temperature Max ($T_{S\ max}$)	200°C
-Time (min to max) (t_s)	60-180 seconds
$T_{S\ max}$ to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_p)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C 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	2025.07.08	2025.07.08	3.0	New file	/	Ding	