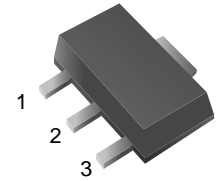


Transistor (NPN)

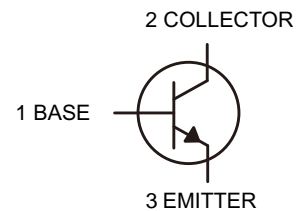
Features

- Low collector-emitter saturation voltage
- High current capability
- Improved device reliability due to reduced heat generation
- Lead free in comply with EU RoHS 2011/65/EU directives



Ordering Information

Part Number	Marking	Shipping	Reel
LT4240W-TR1	ZE	1000PCS Tape&Reel	7 inches
LT4240W-TR3	ZE	3000PCS Tape&Reel	13 inches



Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector- Base Voltage	V_{CBO}	40	V
Collector- Emitter Voltage	V_{CEO}	40	V
Emitter- Base Voltage	V_{EBO}	5	V
Collector Current — Continuous	I_C	2	A
Collector Power Dissipation	P_C	500	mW
Thermal Resistance From JunctionTo Ambient	$R_{\theta JA}$	250	°C/W
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55~ +150	°C

Electrical characteristics (Ta=25 unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 0.1mA, I_E = 0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1mA, I_B = 0$	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 0.1mA, I_C = 0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 30V, I_E = 0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4V, I_C = 0$			100	nA
DC current gain	$h_{FE(1)}$	$V_{CE} = 2V, I_C = 100mA$	350			
	$h_{FE(2)}$	$V_{CE} = 2V, I_C = 500mA$	300			
	$h_{FE(3)}$	$V_{CE} = 2V, I_C = 1A$	300			
	$h_{FE(4)}$	$V_{CE} = 2V, I_C = 2A$	150			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100mA, I_B = 1mA$			70	mV
		$I_C = 500mA, I_B = 50mA$			100	mV
		$I_C = 750mA, I_B = 15mA$			180	mV
		$I_C = 1A, I_B = 50mA$			180	mV
		$I_C = 2A, I_B = 200mA$			320	mV
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2A, I_B = 200mA$			1.1	V
Base-emitter voltage	$V_{BE(ON)}$	$V_{CE} = 2V, I_C = 100mA$			0.75	V
Transition frequency	f_T	$V_{CE} = 10V, I_C = 100mA, f=100MHz$	100			MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$			20	pF



Characteristics Curves

Fig.1 h_{FE} vs I_c

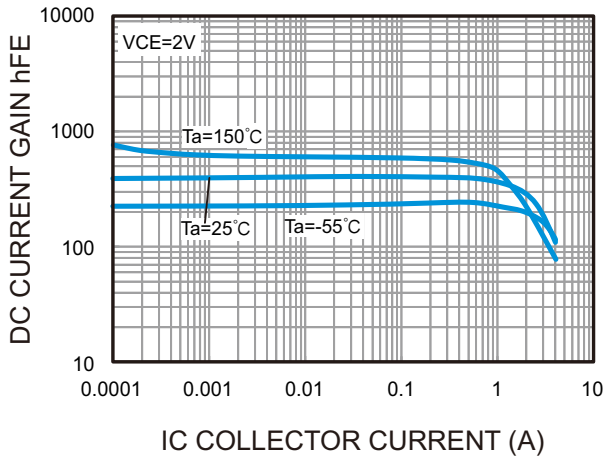


Fig.2 $V_{BE(on)}$ vs I_c

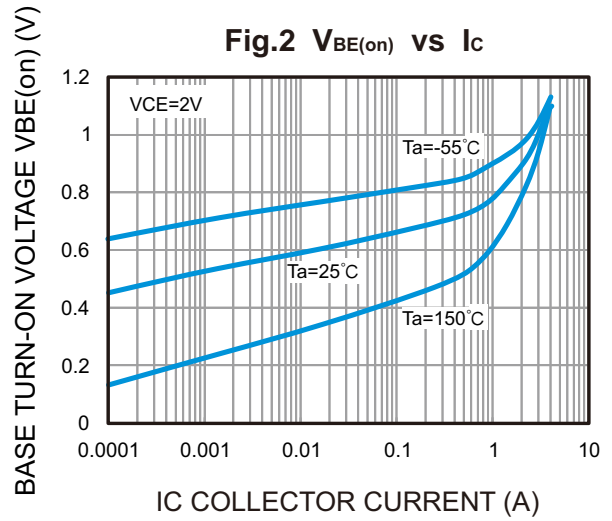


Fig.3 $V_{CE(sat)}$ vs I_c

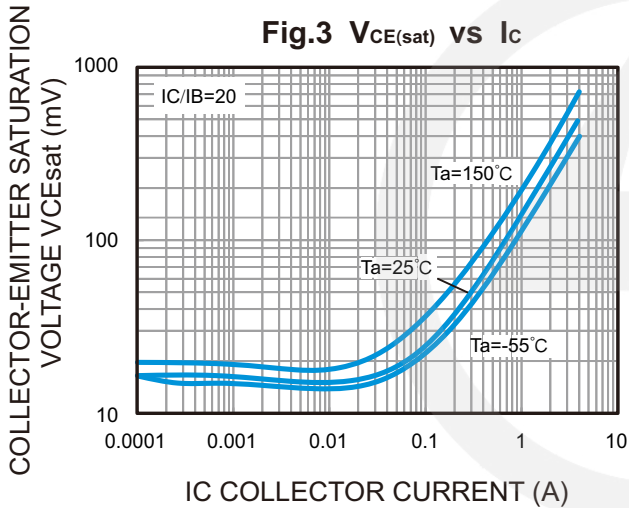


Fig.4 $V_{BE(sat)}$ vs I_c

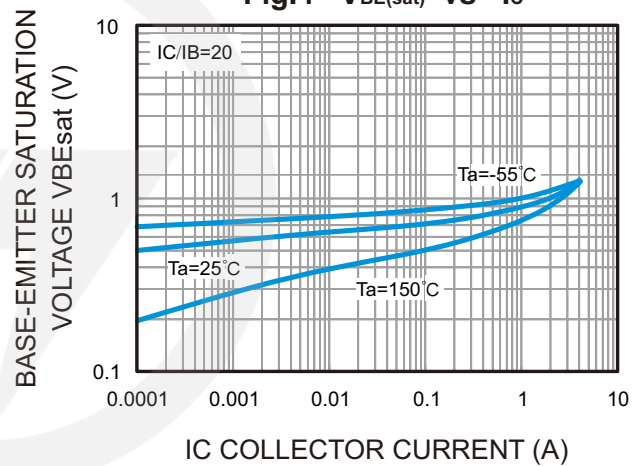


Fig.5 I_c vs V_{CE}

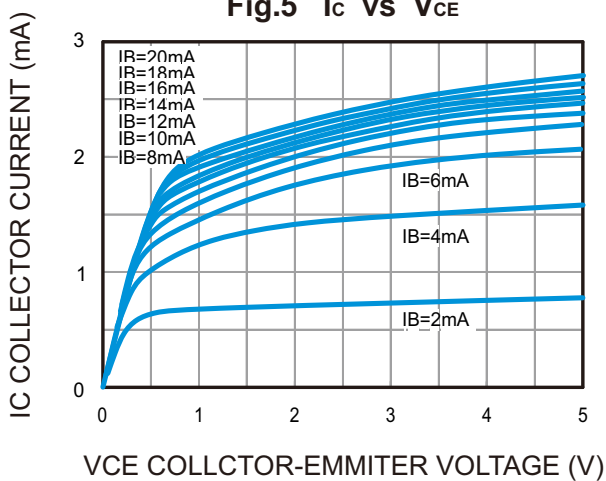
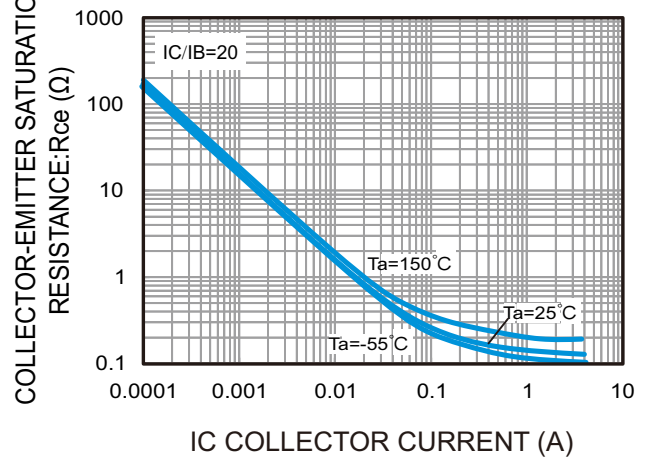
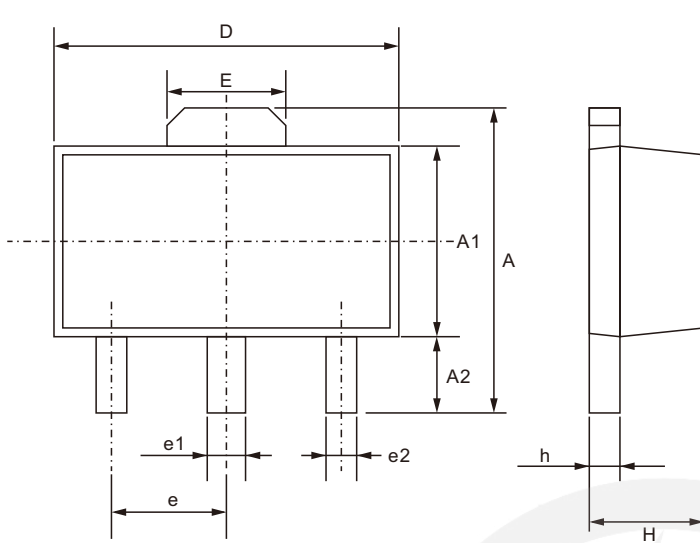


Fig.6 R_{ce} vs I_c



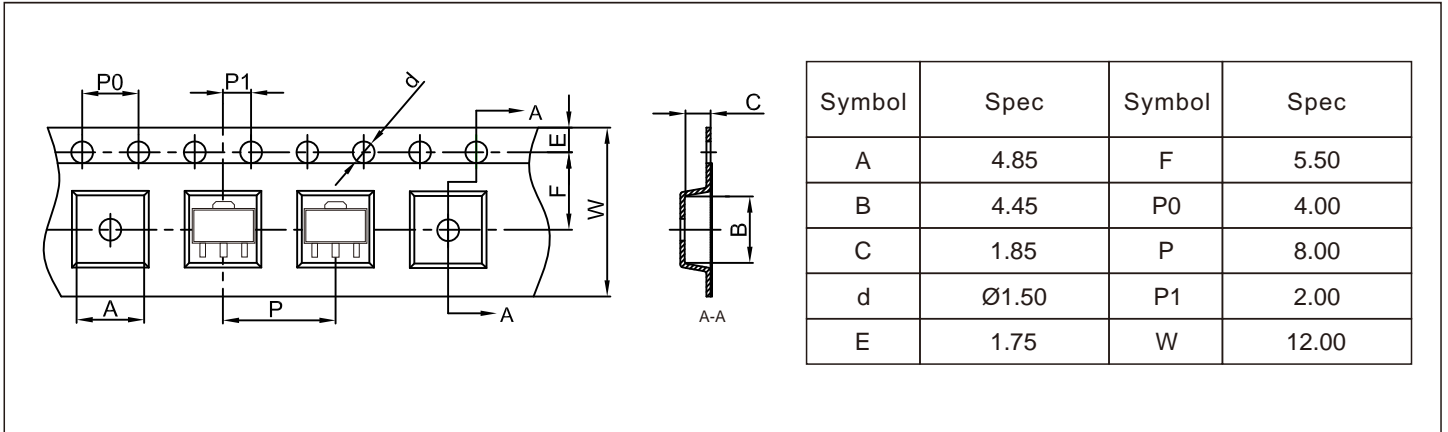
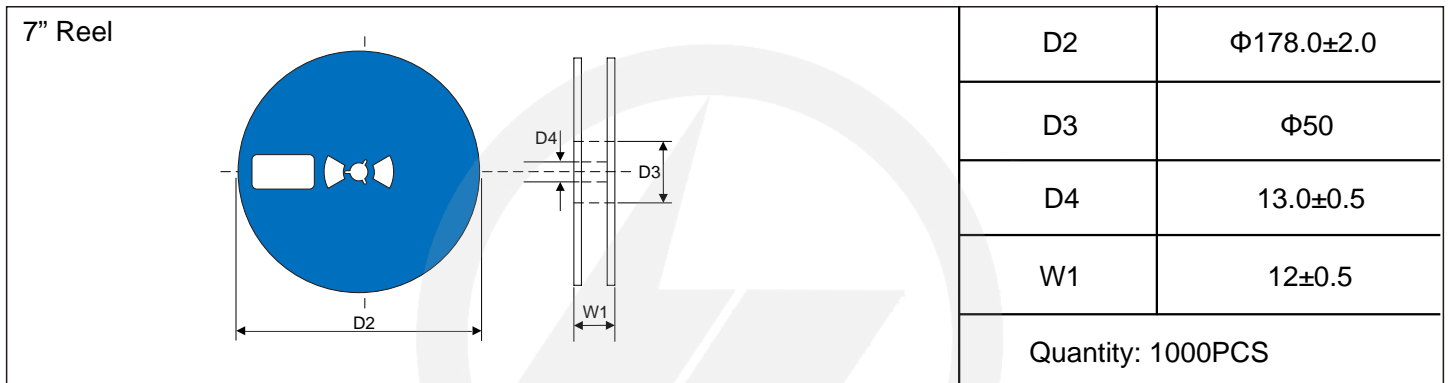
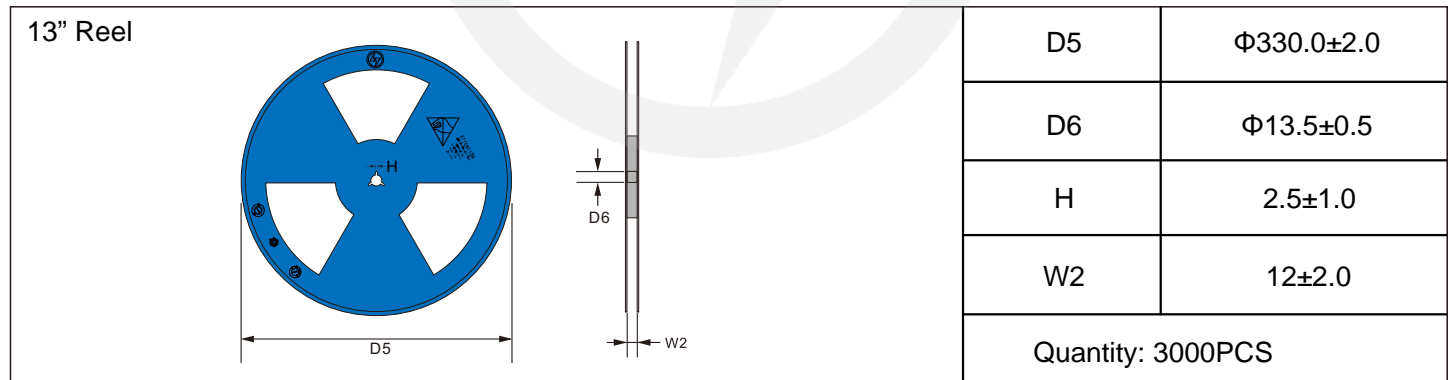
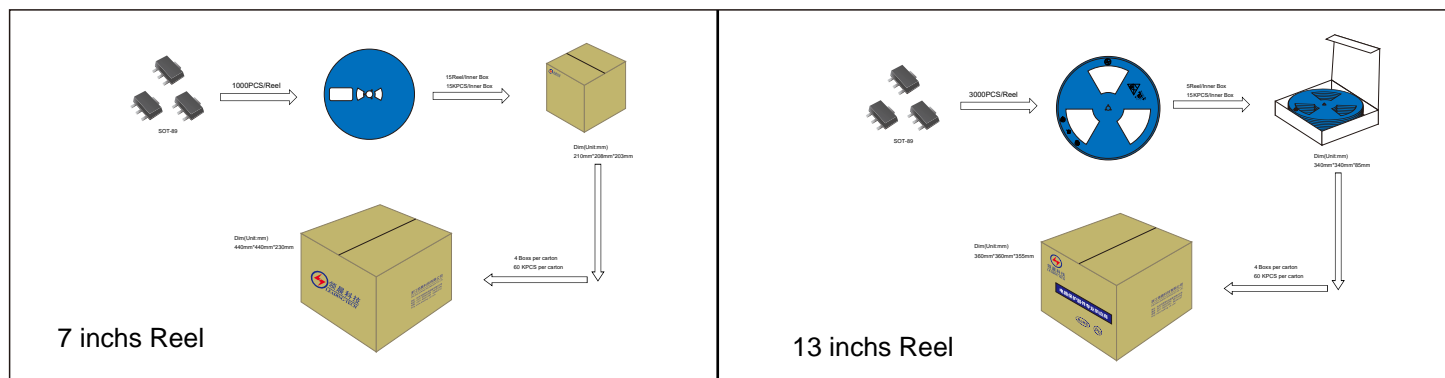


SOT-89 Package Outline



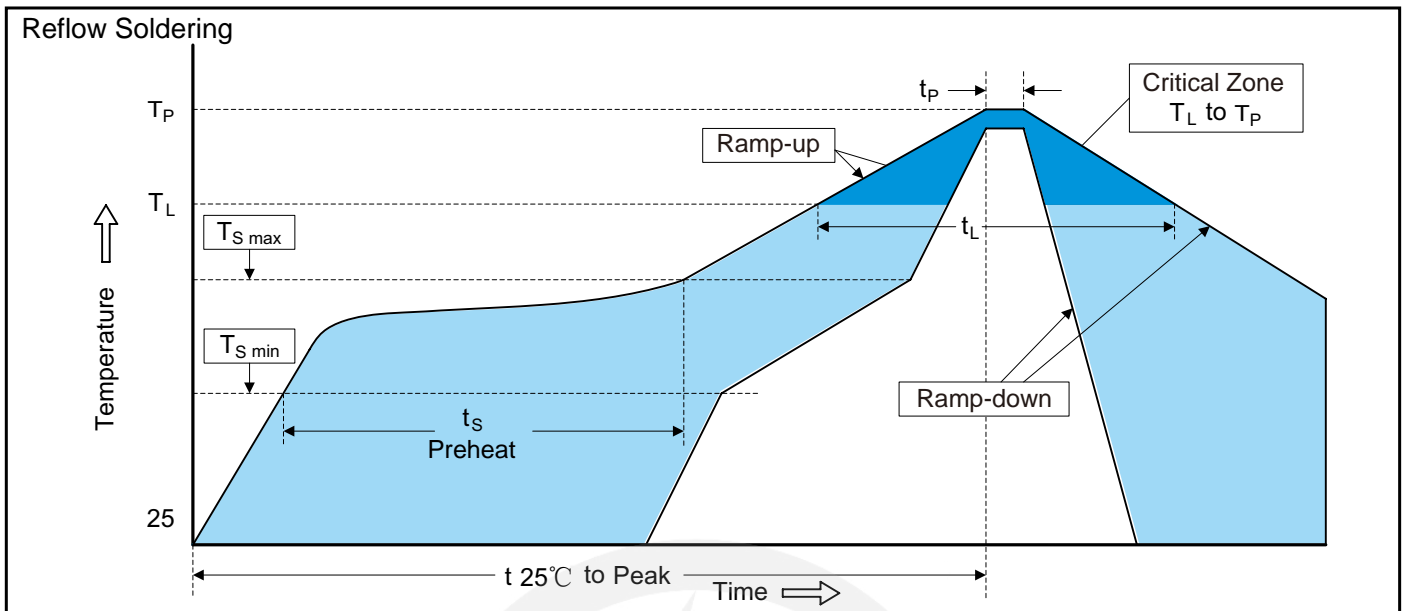
Unit: mm

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	2024.10.16	2024.10.16	3.0	New File	/	Ding	
02	2025.06.11	2025.06.11	3.1	Update packaging information	/	Ding	