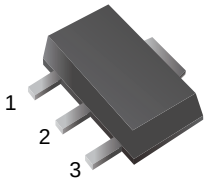
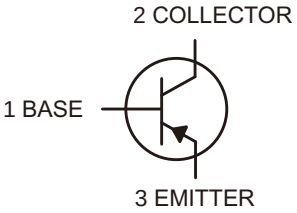
LT5240W

Transistor (PNP)

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
LT5240W-TR1	ZF	1000PCS Tape&Reel	7 inchs
LT5240W-TR3	ZF	3000PCS Tape&Reel	13 inchs

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°C 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	300			
	$h_{FE(2)}$	V_{CE} = -2V, I_C = -500mA	260			
	$h_{FE(3)}$	V_{CE} = -2V, I_C = -1A	210			
	$h_{FE(4)}$	V_{CE} = -2V, I_C = -2A	100			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = -100mA , I_B = -1mA			-100	mV
		I_C = -500mA , I_B = -50mA			-110	mV
		I_C = -750mA , I_B = -15mA			-225	mV
		I_C = -1A , I_B = -50mA			-225	mV
		I_C = -2A , I_B = -200mA			-350	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

Characteristics Curves

Fig.1 DC CURRENT GAIN VS COLLECTOR CURRENT

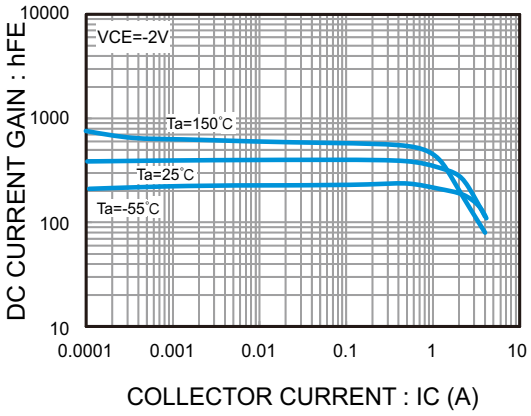


Fig.2 BASE-EMITTER TURN-ON VOLTAGE VS COLLECT OR CURRENT

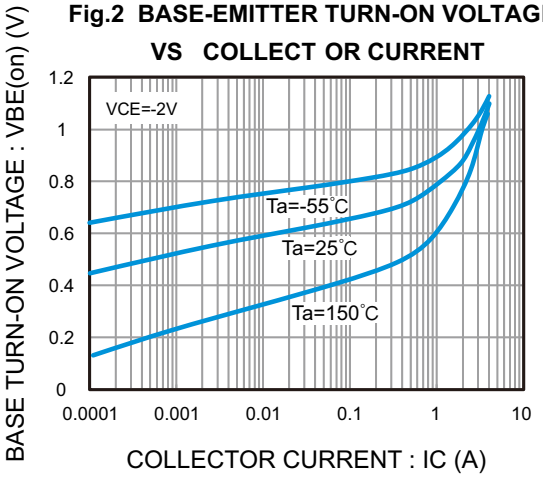


Fig.3 COLLECTOR-EMITTER SATURATION VOLTAGE VS COLLECTOR CURRENT

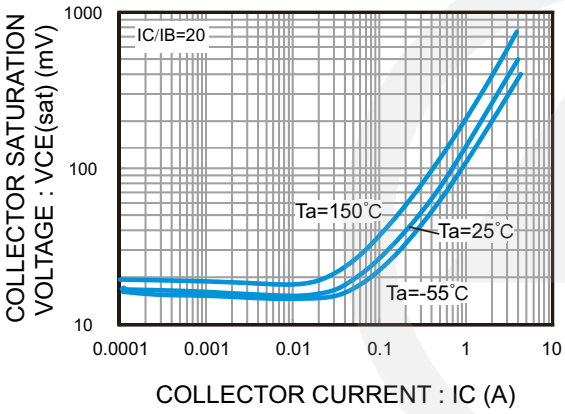


Fig.4 BASE-EMITTER SATURATION VOLTAGE VS COLLECTOR CURRENT

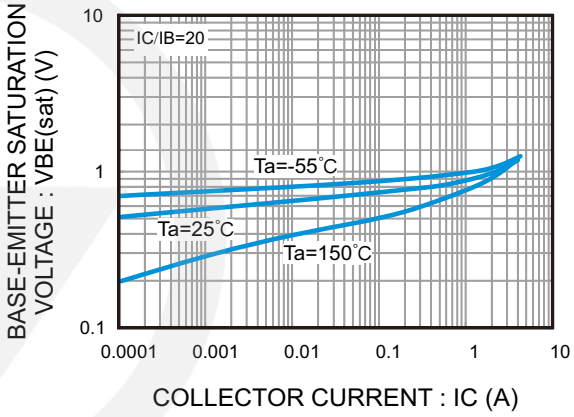


Fig.5 COLLECTOR CURRENT VS COLLECTOR-EMITTER SATURATION VOLTAGE

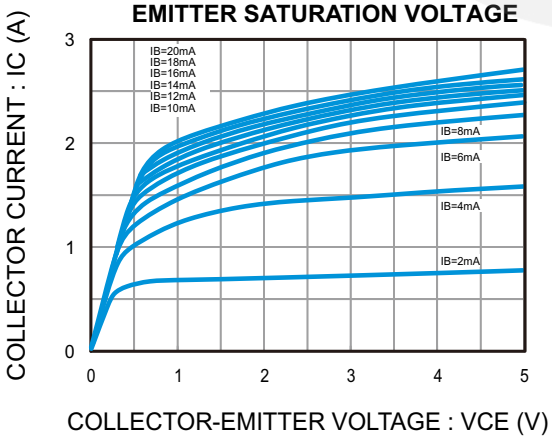
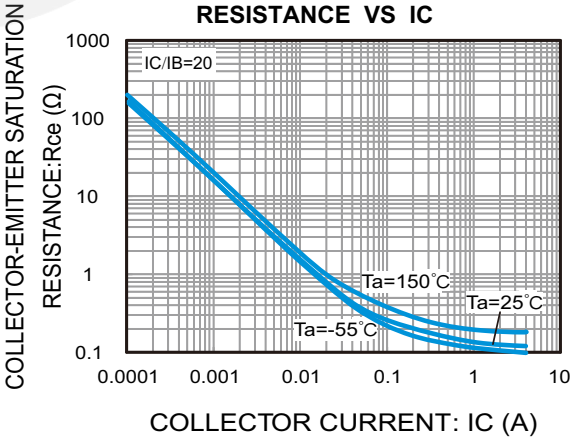
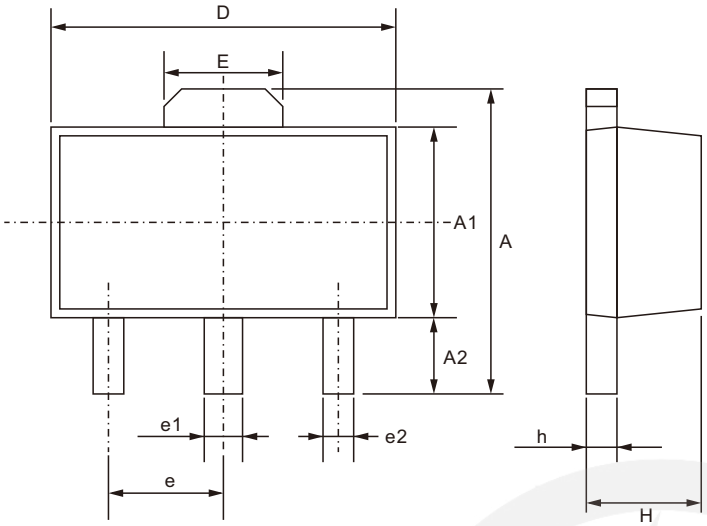


Fig.6 COLLECTOR-EMITTER SATURATION RESISTANCE VS IC



SOT-89 Package Outline

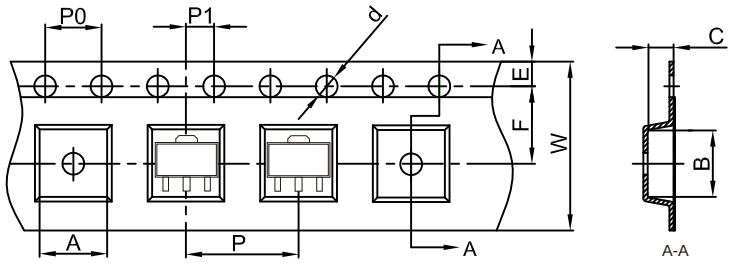


Unit: mm

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

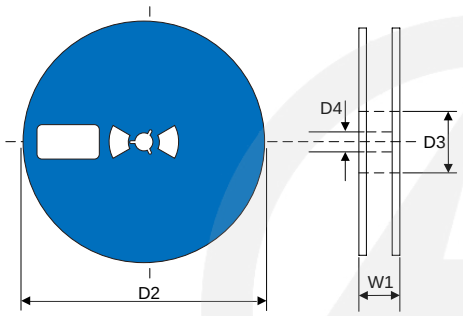


Symbol	Spec	Symbol	Spec
A	4.85	F	5.50
B	4.45	P0	4.00
C	1.85	P	8.00
d	Ø1.50	P1	2.00
E	1.75	W	12.00

Reel Dimensions

Unit：mm

7” Reel

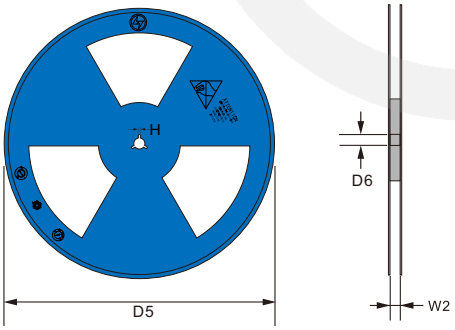


D2	Φ178.0±2.0
D3	Φ50
D4	13.0±0.5
W1	12±0.5
Quantity: 1000PCS	

Reel Dimensions

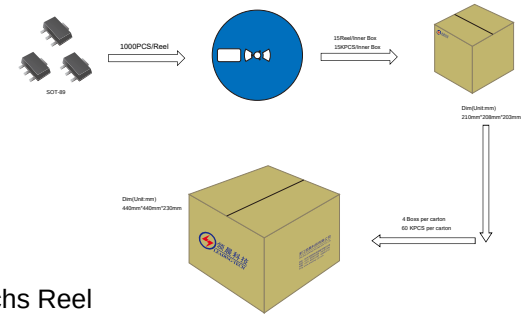
Unit：mm

13” Reel

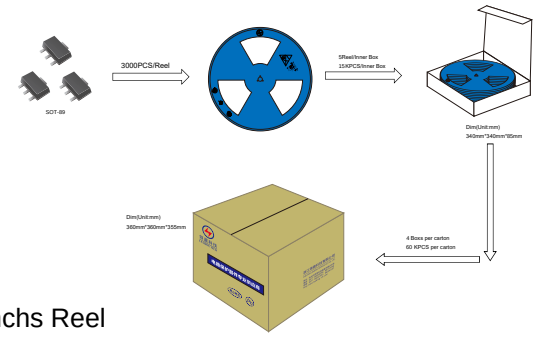


D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 3000PCS	

Packaging



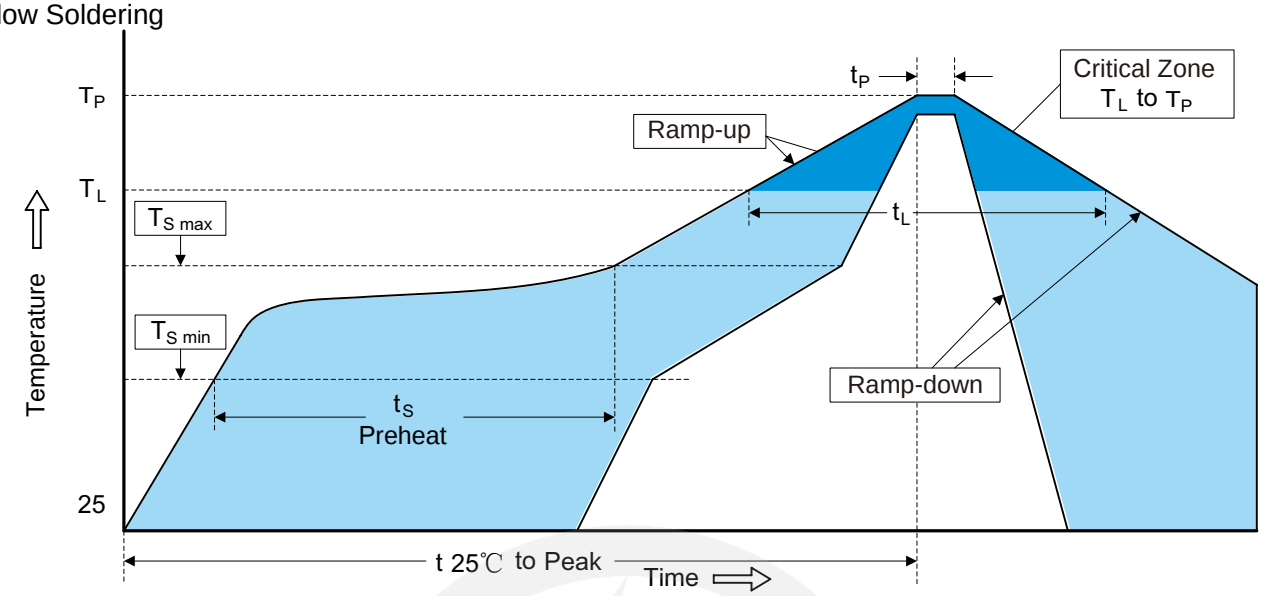
7 inchs Reel



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