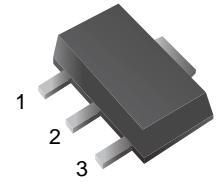


## Transistor(PNP)

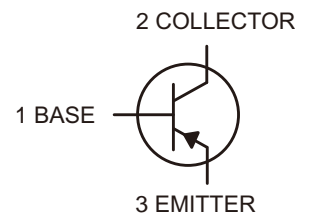
### Features

- Low saturation voltage
- Lead free in comply with EU RoHS 2011/65/EU directives



### Ordering Information

Part Number	Marking	Shipping	Reel
LT2AR553-TR1	DL	1000PCS Tape&Reel	7 inches
LT2AR553-TR3	DL	3000PCS Tape&Reel	13 inches



### Maximum Ratings ( Ta=25 unless otherwise noted )

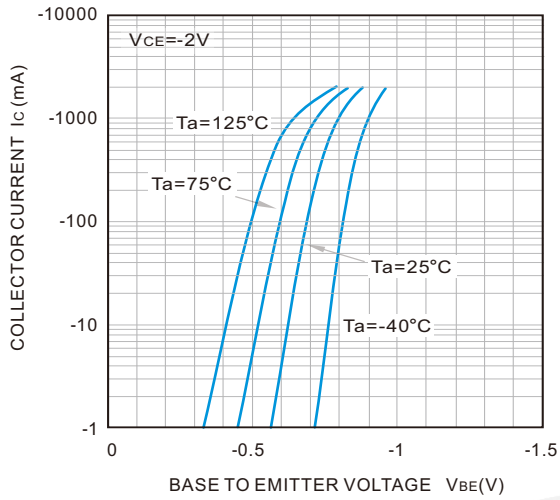
Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	50	V
Collector Emitter Voltage	$-V_{CEO}$	50	V
Emitter Base Voltage	$-V_{EBO}$	6	V
Collector Current	$-I_C$	2	A
Maximum Power Dissipation	$P_D$	0.5	W
Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C

### Electrical characteristics ( Ta=25 unless otherwise specified )

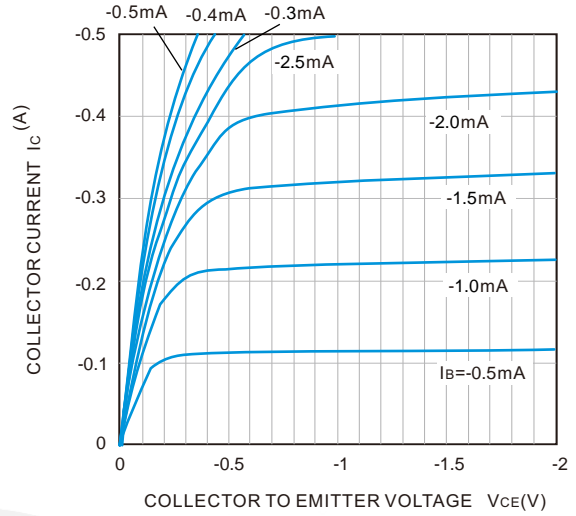
Parameter	Symbol	Min	Typ	Max	Unit
DC Current Gain at $V_{CE} = -2\text{ V}$ , $I_C = -50\text{ mA}$	$H_{FE}$	180		450	
Collector Base Cutoff Current at $V_{CB} = -50\text{ V}$	$-I_{CBO}$			0.1	$\mu\text{A}$
Emitter Base Cutoff Current at $V_{EB} = -4\text{ V}$	$-I_{EBO}$			0.1	$\mu\text{A}$
Collector Base Breakdown Voltage at $I_C = -100\ \mu\text{A}$	$-V_{(BR)CBO}$	50			V
Collector Emitter Breakdown Voltage at $I_C = -1\text{ mA}$	$-V_{(BR)CEO}$	50			V
Emitter Base Breakdown Voltage at $I_E = -100\ \mu\text{A}$	$-V_{(BR)EBO}$	6			V
Collector Emitter Saturation Voltage at $I_C = -700\text{ mA}$ , $I_B = -35\text{ mA}$	$-V_{CE(sat)}$			0.4	V
Base Emitter Saturation Voltage at $I_C = -500\text{ mA}$ , $I_B = -50\text{ mA}$	$-V_{BE(sat)}$			1.2	V
Transition Frequency at $V_{CE} = -10\text{ V}$ , $I_E = -300\text{ mA}$ , $f=100\text{MHz}$	$F_T$		320		MHz

**Characteristics Curves**

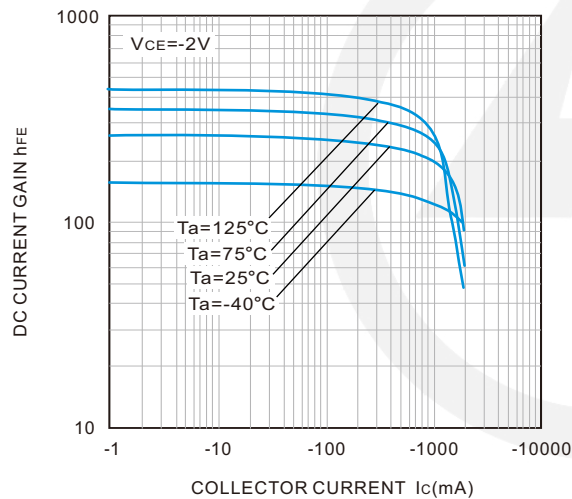
**Fig.1 Ground Emitter Propagation Characteristics**



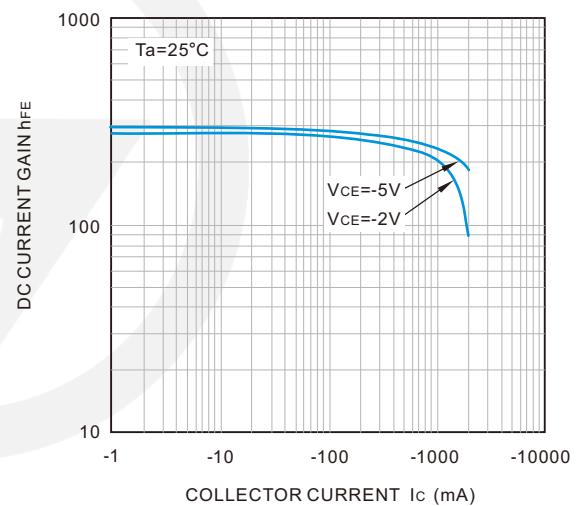
**Fig.2 Typical Output Characteristics**



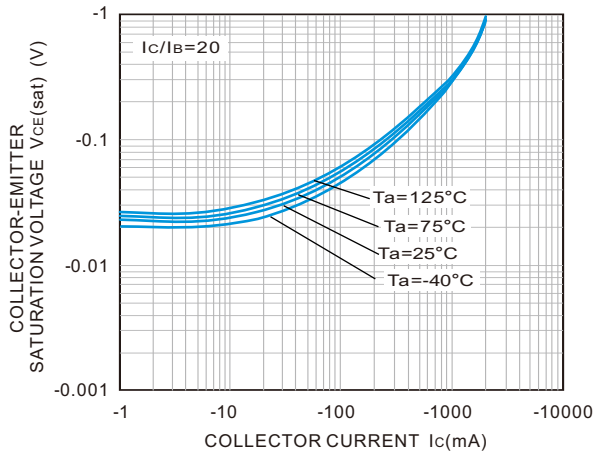
**Fig.3 DC Current Gain vs Collector Current (1)**



**Fig.4 DC Current Gain vs Output Current (2)**



**Fig.5 Collector-Emitter Saturation Voltage vs Collector Current (1)**



**Fig.6 Collector-Emitter Saturation Voltage vs Collector Current (2)**

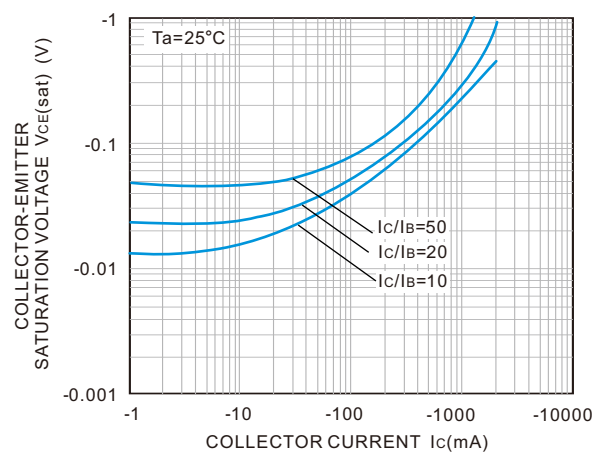




Fig.7 Base-Emitter Saturation Voltage vs Collector Current

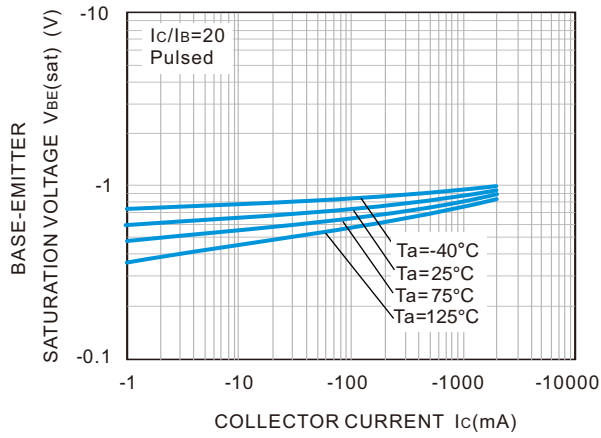


Fig.8 Gain Bandwidth Product vs Emitter Current

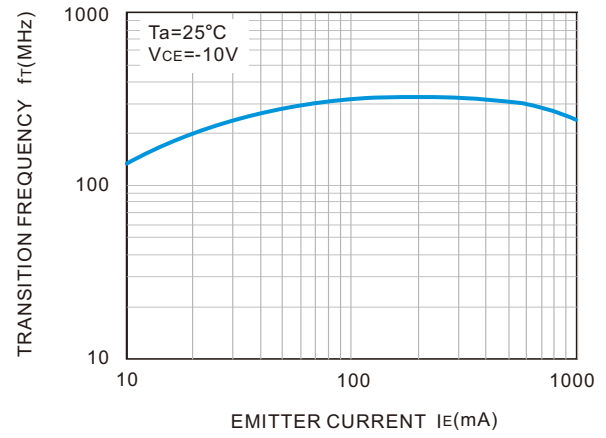


Fig.9 Emitter Input Capacitance vs Emitter-Base Voltage  
Collector Output Capacitance vs Collector-Base Voltage

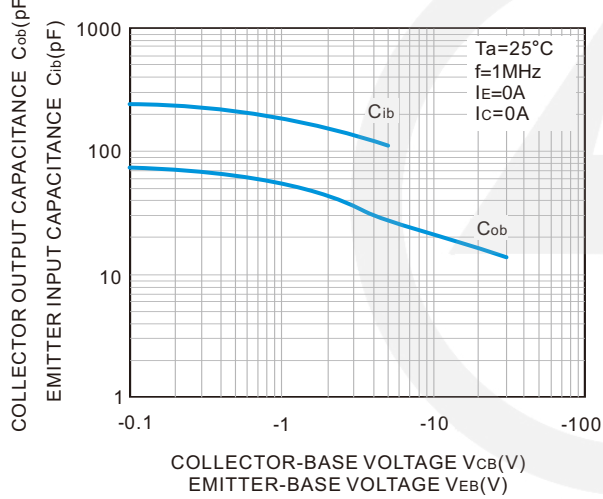
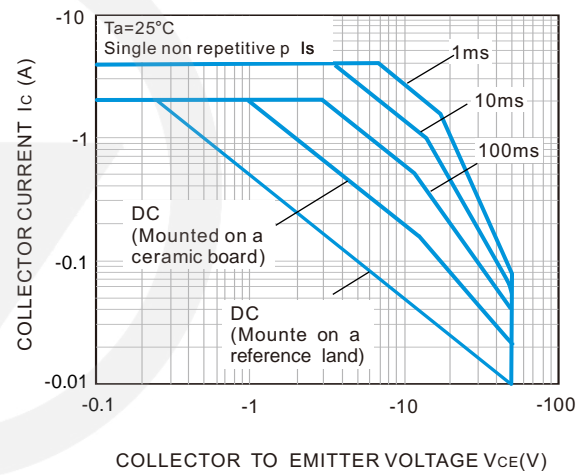
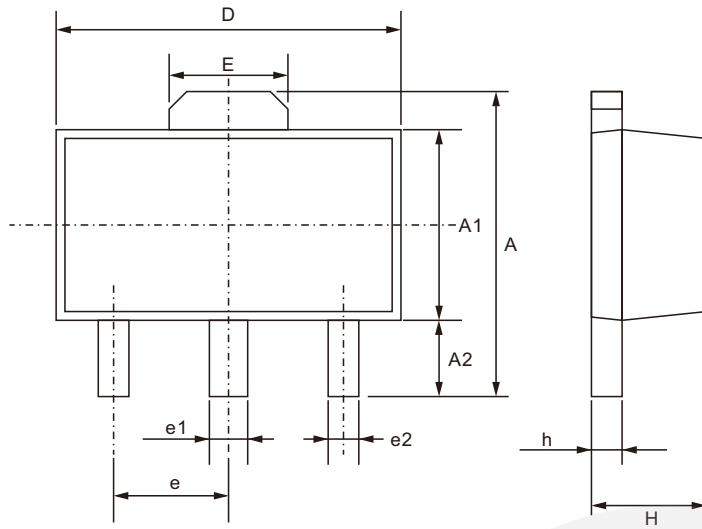


Fig.10 Safe Operating Area



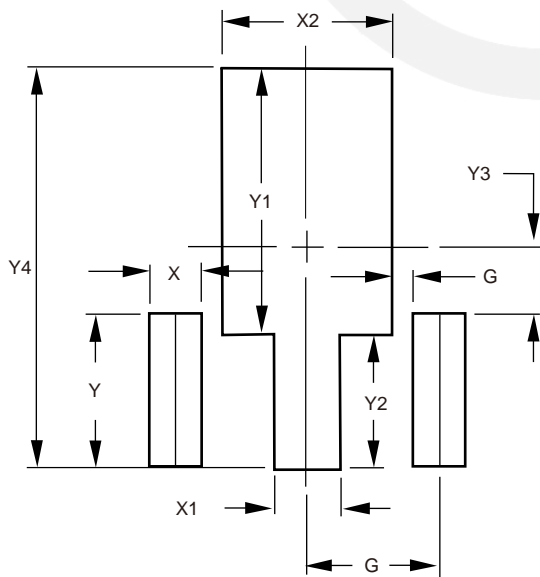
**SOT-89 Package Outline**



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

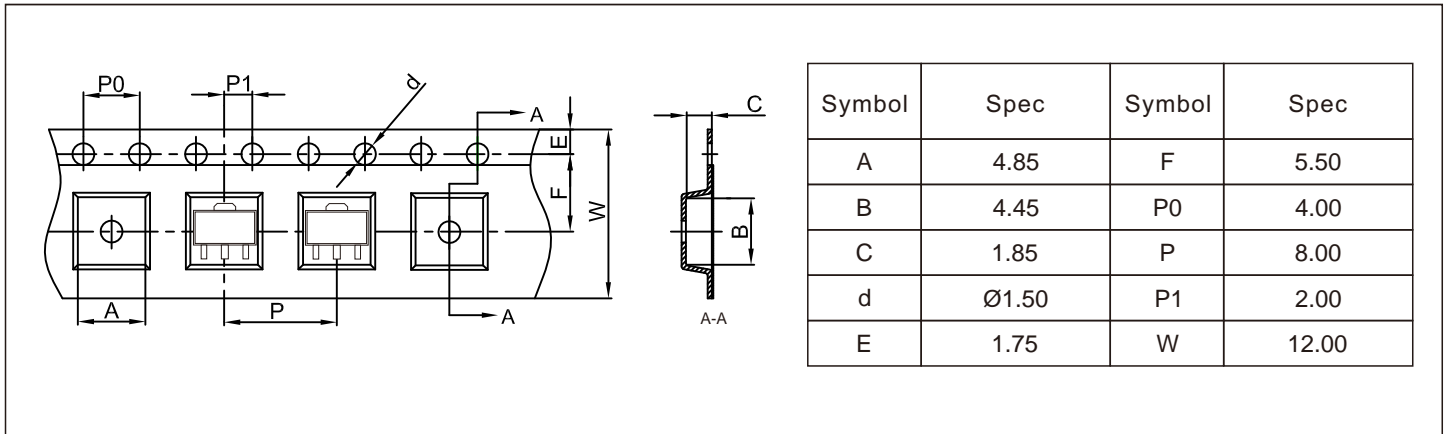
**SOT-89 Suggested Pad Layout**



Dimensions	Value (in mm)
C	1.500
G	0.244
X	0.580
X1	0.760
X2	1.933
Y	1.730
Y1	3.030
Y2	1.500
Y3	0.770
Y4	4.530

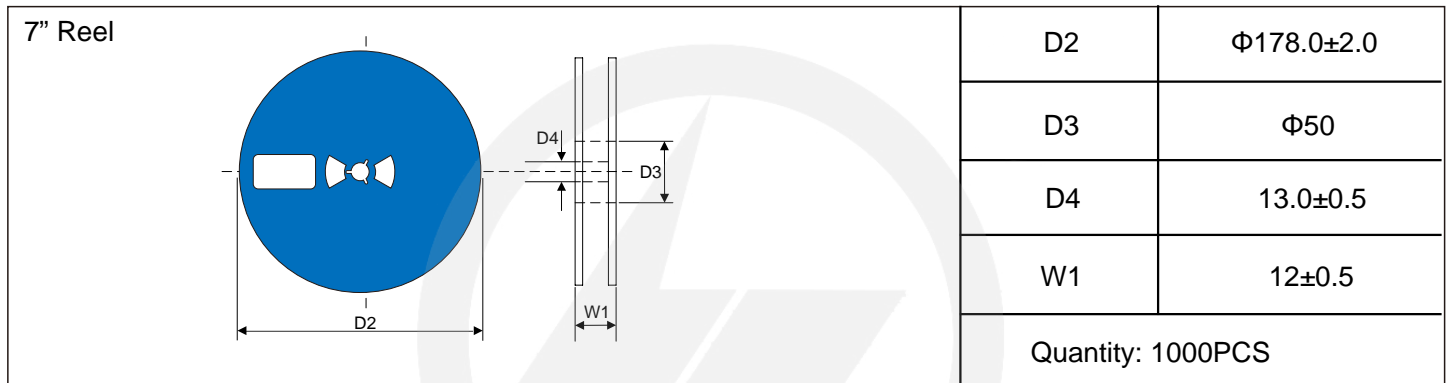
**Carrier Tape Dimensions**

Unit : mm



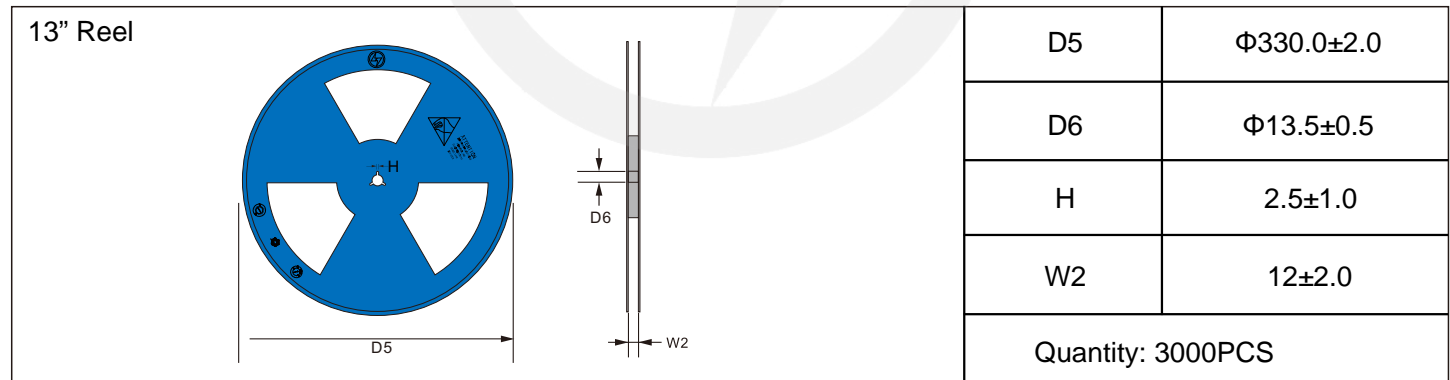
**Reel Dimensions**

Unit : mm

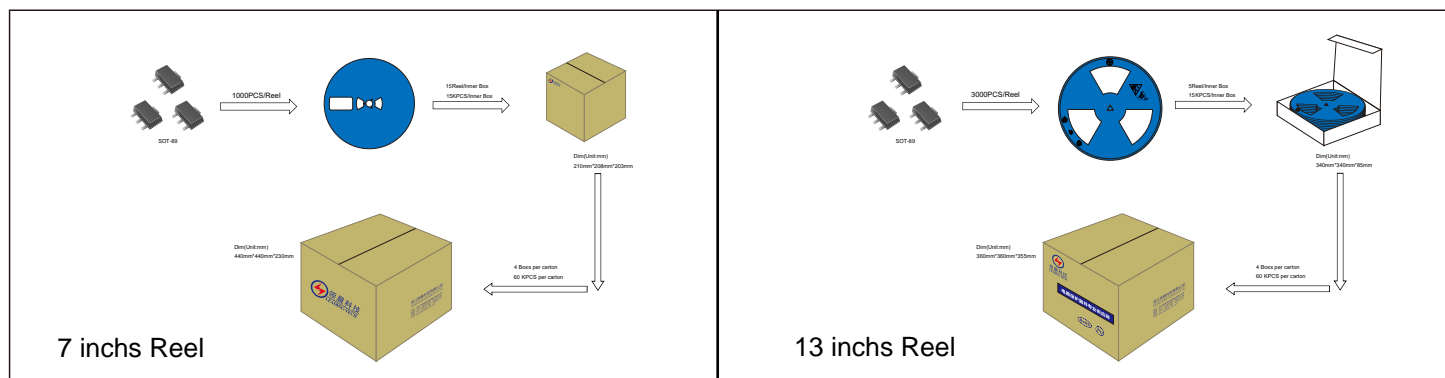


**Reel Dimensions**

Unit : mm

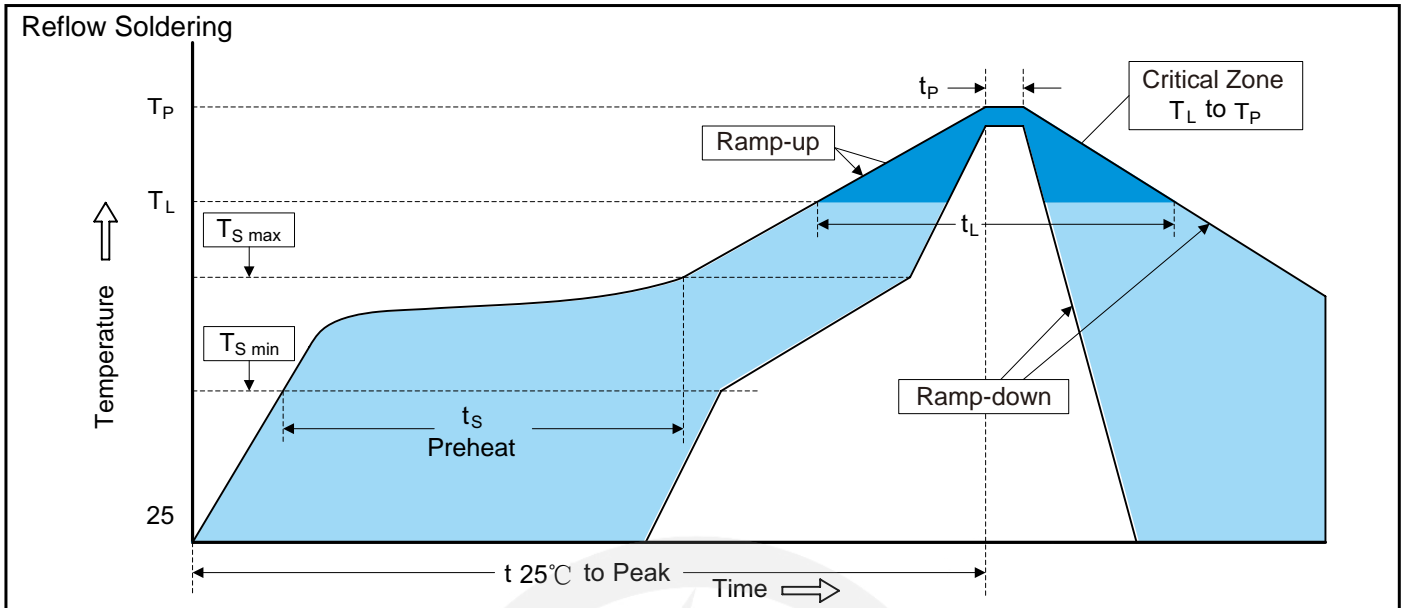


**Packaging**





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T <sub>L</sub> to T <sub>P</sub> )	3°C/second max.
Preheat	
-Temperature Min (T <sub>S min</sub> )	150°C
-Temperature Max (T <sub>S max</sub> )	200°C
-Time (min to max) (t <sub>s</sub> )	60-180 seconds
T <sub>S max</sub> to T <sub>L</sub>	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T <sub>L</sub> )	217°C
-Time (t <sub>L</sub> )	60-150 seconds
Peak Temperature (T <sub>P</sub> )	260°C
Time within 5°C of actual Peak Temperature (t <sub>p</sub> )	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	2024.3.12	2024.3.12	3.0	New File	/	Ding	