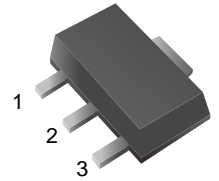


Transistor (NPN)

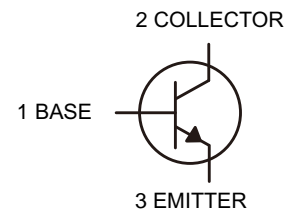
Features

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



Ordering Information

Part Number	Marking	Shipping	Reel
LT2CR553-TR1	EL	1000PCS Tape&Reel	7 inches
LT2CR553-TR3	EL	3000PCS Tape&Reel	13 inches



Maximum Ratings ($T_a=25$ 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	500	mW
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 2$ V, $I_C = 50$ mA	H_{FE}	180		450	
Collector Base Cutoff Current at $V_{CB} = 50$ V	I_{CBO}			0.1	μ A
Emitter Base Cutoff Current at $V_{EB} = 4$ V	I_{EBO}			0.1	μ A
Collector Base Breakdown Voltage at $I_C = 100$ μ A	$V_{(BR)CBO}$	50			V
Collector Emitter Breakdown Voltage at $I_C = 1$ mA	$V_{(BR)CEO}$	50			V
Emitter Base Breakdown Voltage at $I_E = 100$ μ A	$V_{(BR)EBO}$	6			V
Collector Emitter Saturation Voltage at $I_C = 700$ mA, $I_B = 35$ mA	$V_{CE(sat)}$			0.35	V
Base Emitter Saturation Voltage at $I_C = 500$ mA, $I_B = 50$ mA	$V_{BE(sat)}$			1.2	V
Transition Frequency at $V_{CE} = 10$ V, $I_E = 300$ mA, $f=100$ MHz	F_T		360		MHz

Characteristics Curves

Fig.1 Ground Emitter Propagation Characteristics

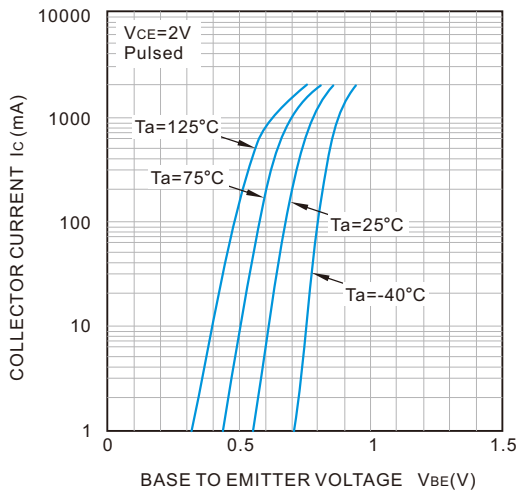


Fig.2 Typical Output Characteristics

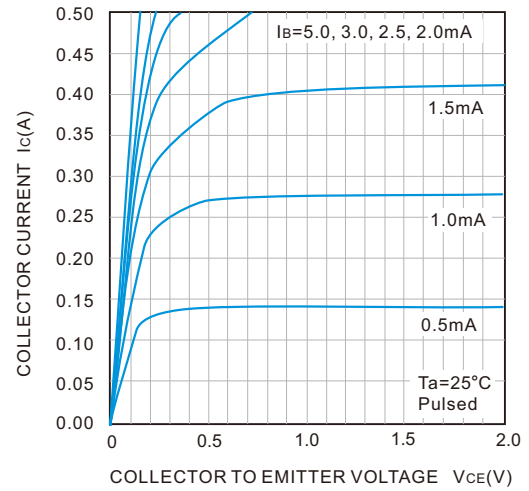


Fig.3 DC Current Gain vs Collector Current (1)

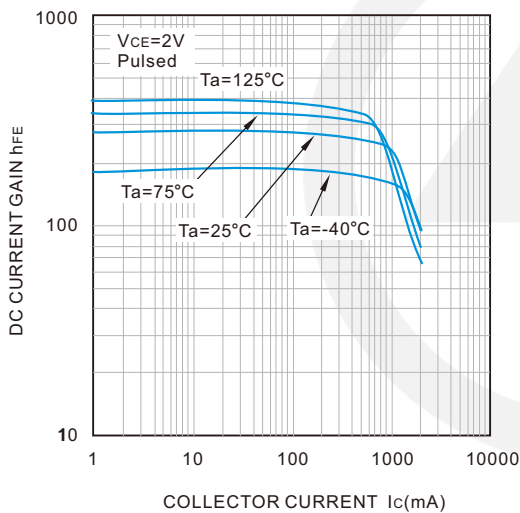


Fig.4 DC Current Gain vs Collector Current (2)

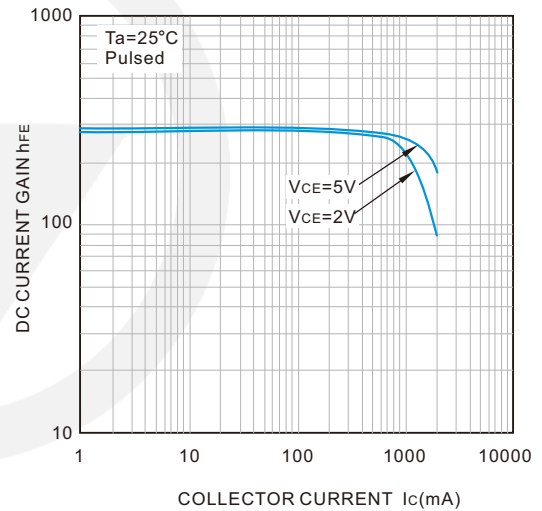


Fig.5 Collector-Emitter Saturation Voltage vs Collector Current (1)

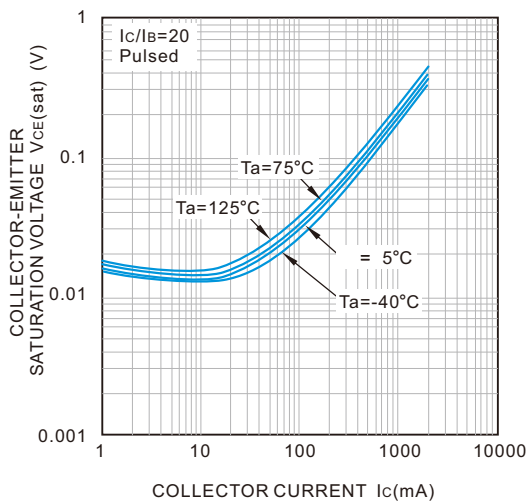


Fig.6 Collector-Emitter Saturation Voltage vs Collector Current (2)

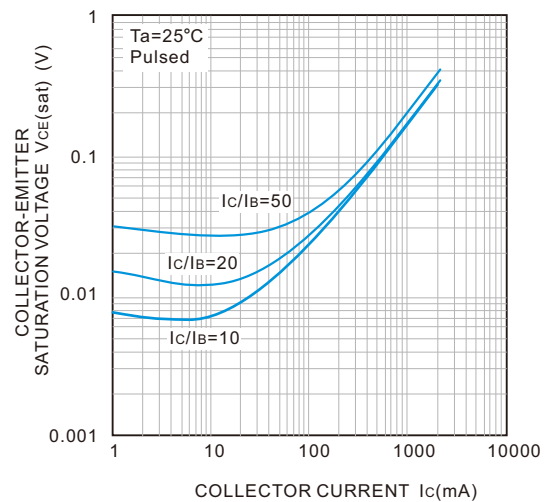




Fig.7 Base-Emitter Saturation Voltage vs Collector Current

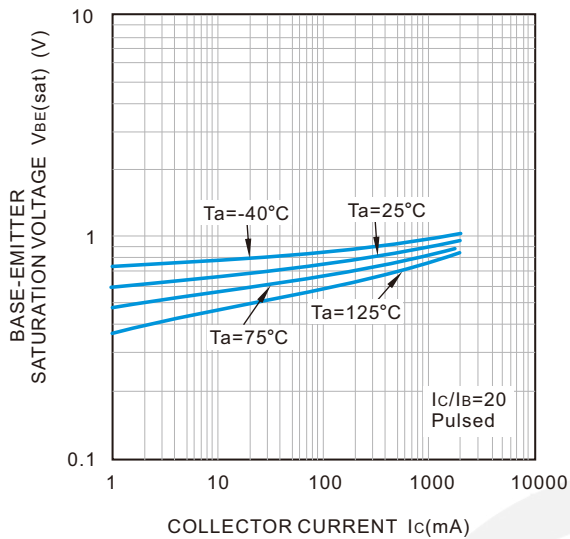


Fig.8 Gain Bandwidth Product vs Emitter Current

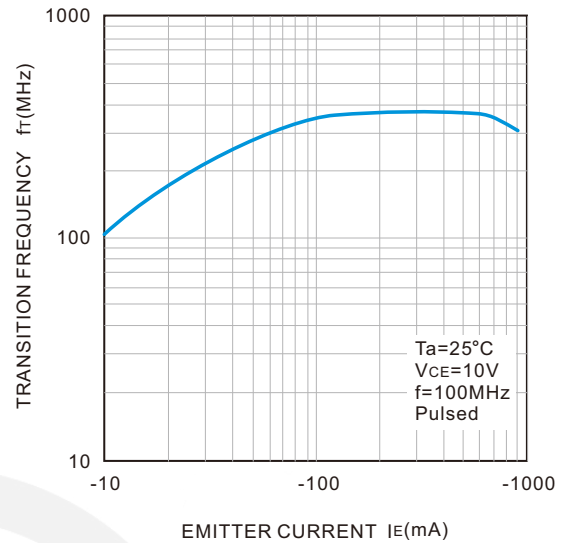


Fig.9 Emitter Input Capacitance vs. Emitter-Base Voltage Collector Output Capacitance vs. Collector-Base Voltage

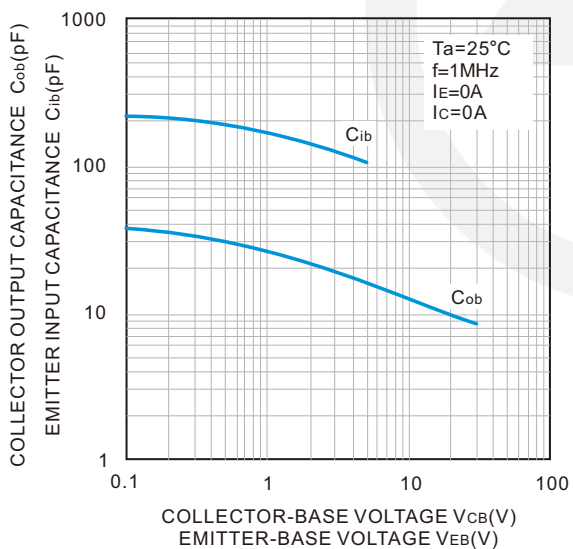
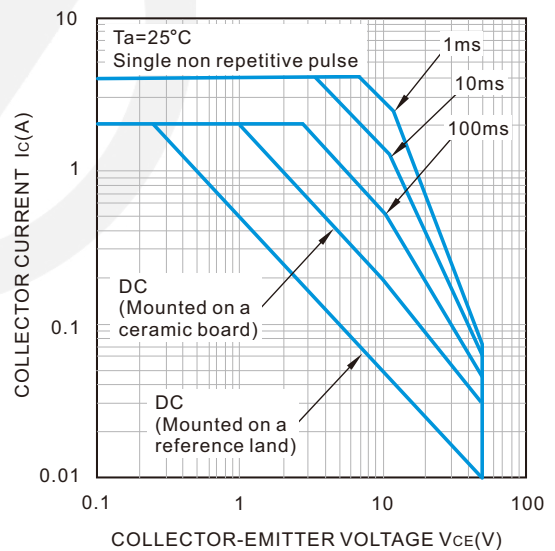
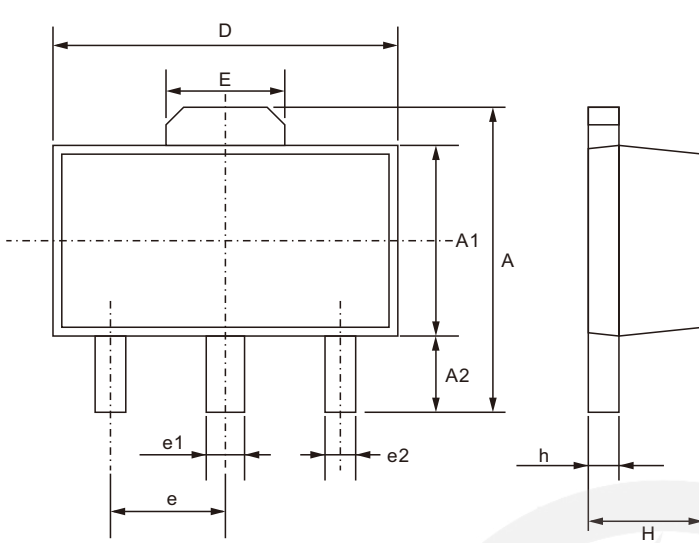


Fig.10 Safe Operating Area



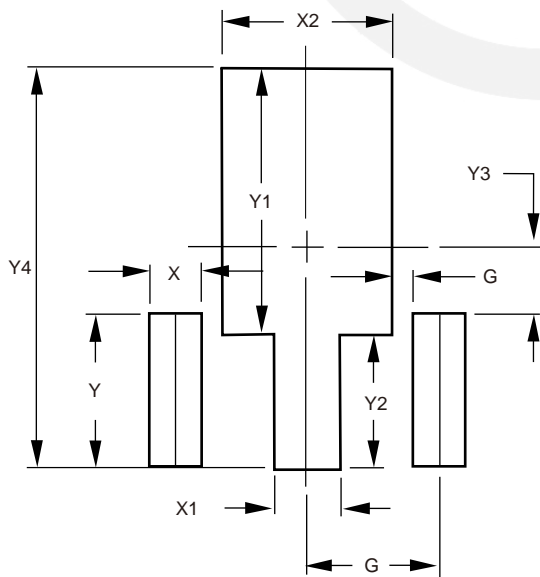
SOT-89 Package Outline



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

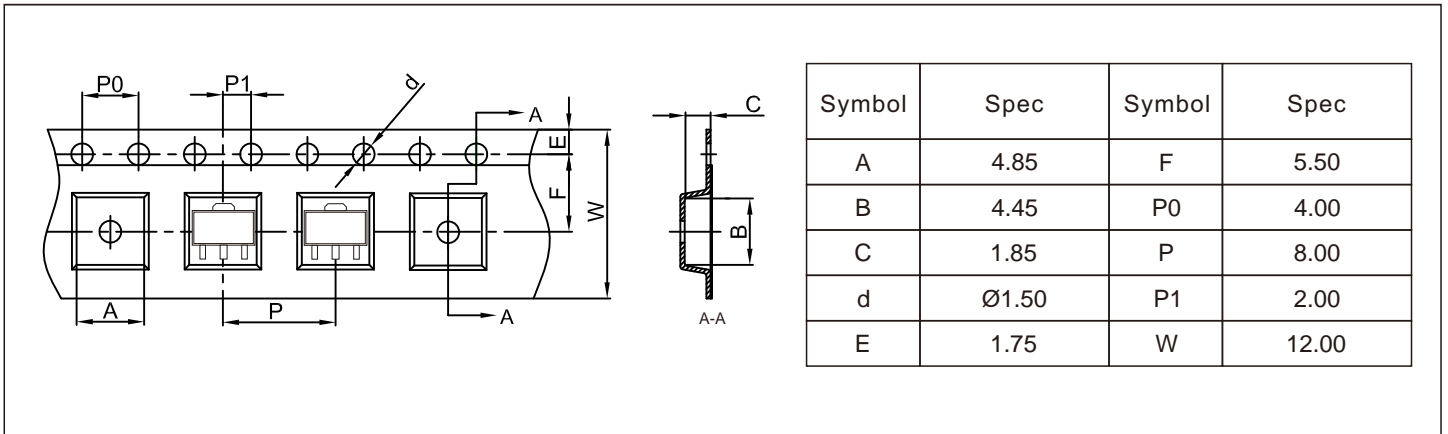
SOT-89 Suggested Pad Layout



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

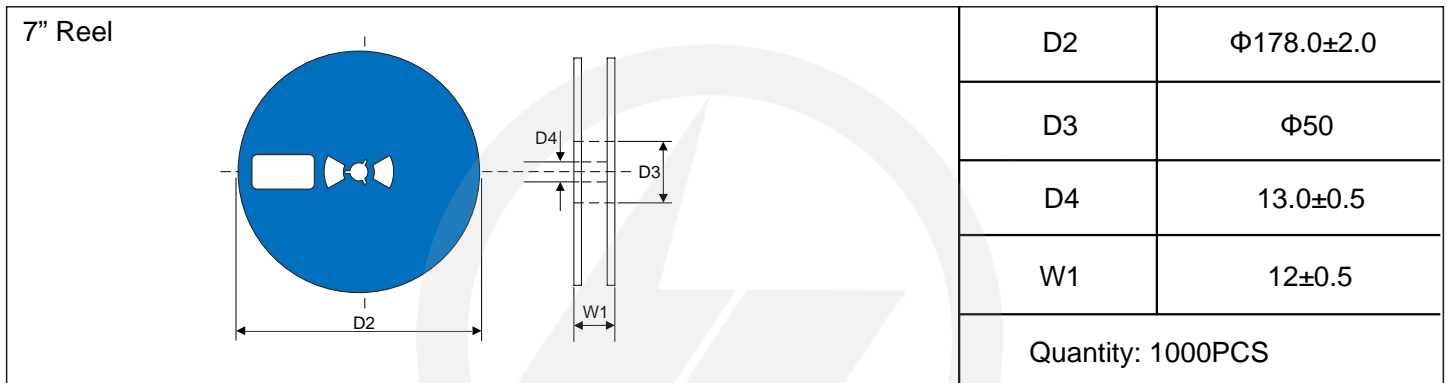
Carrier Tape Dimensions

Unit : mm



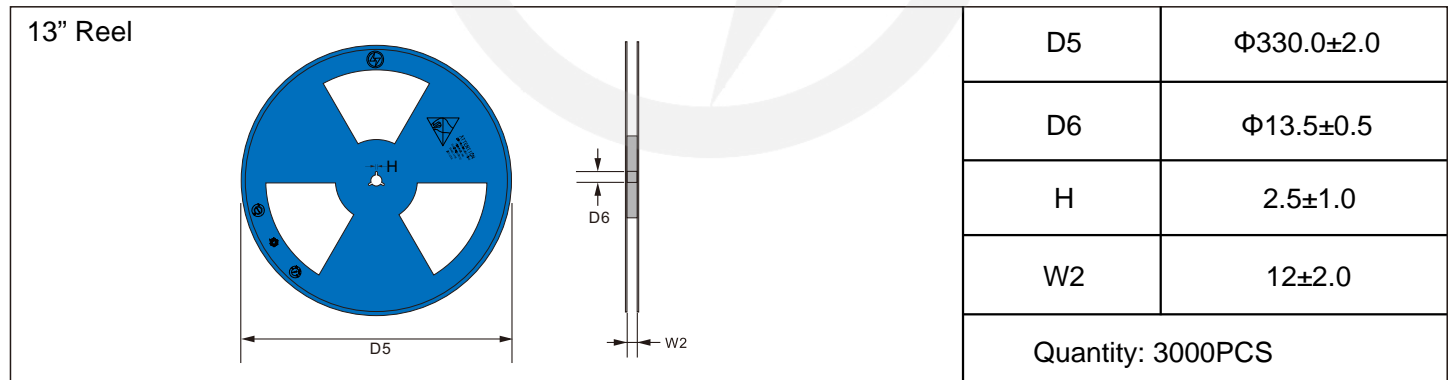
Reel Dimensions

Unit : mm

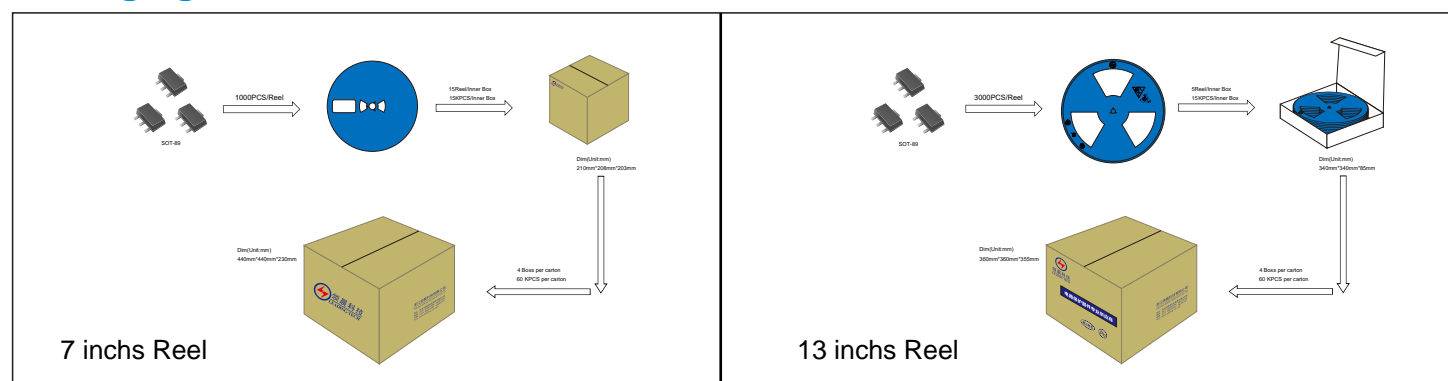


Reel Dimensions

Unit : mm

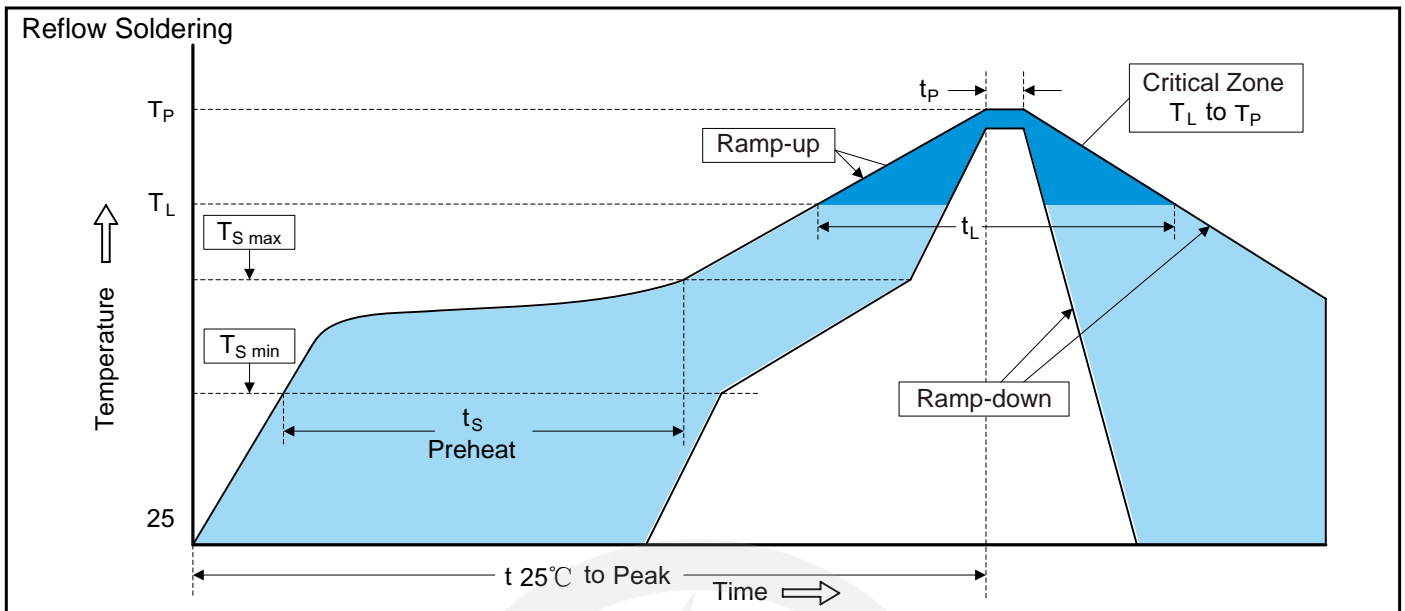


Packaging





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_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	2024.10.10	2024.10.10	3.0	New File	/	Ding	
02	2025.06.11	2025.06.11	3.1	Update packaging information	/	Ding	