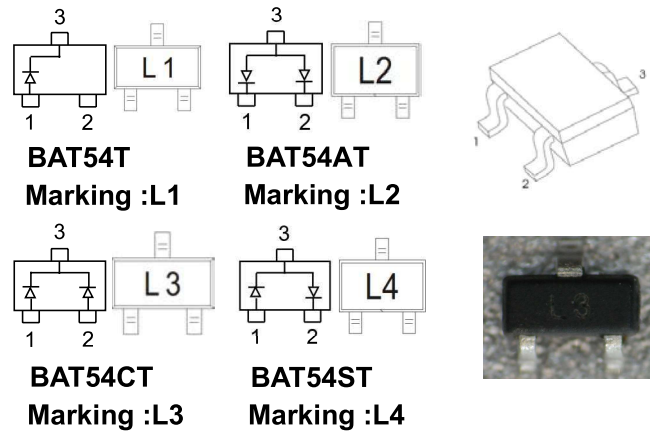


**200mA Plastic-Encapsulate Schottky Barrier Rectifier - 30V**

PRIMARY CHARACTERISTICS	
P_D	150mW
V_{RRM}	30V
I_{FRM}	300mA
$V_F@I_F=10mA$	0.4V
$T_{J\ Max}$	125°C

FEATURES

- Low Forward Voltage Drop
- Fast Switching
- Moisture Sensitivity Level 1
- Weight: 0.0026 gram (about)

SOT-523 PACKAGE**MECHANICAL DATA**

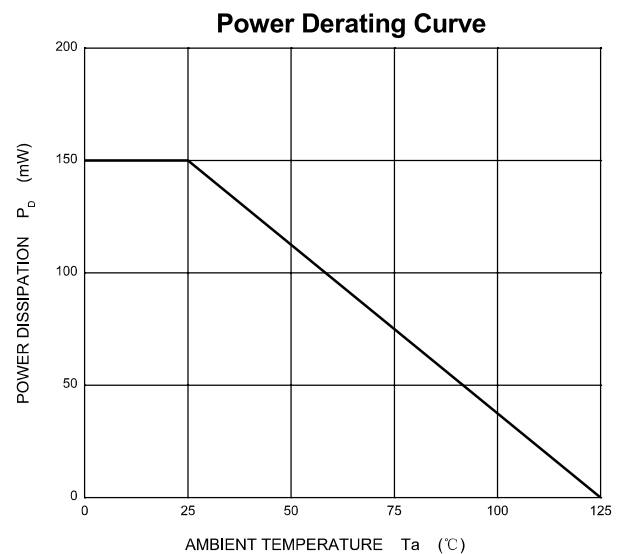
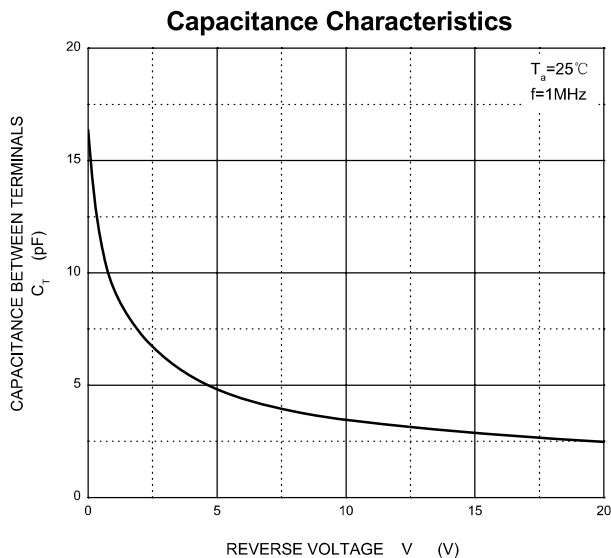
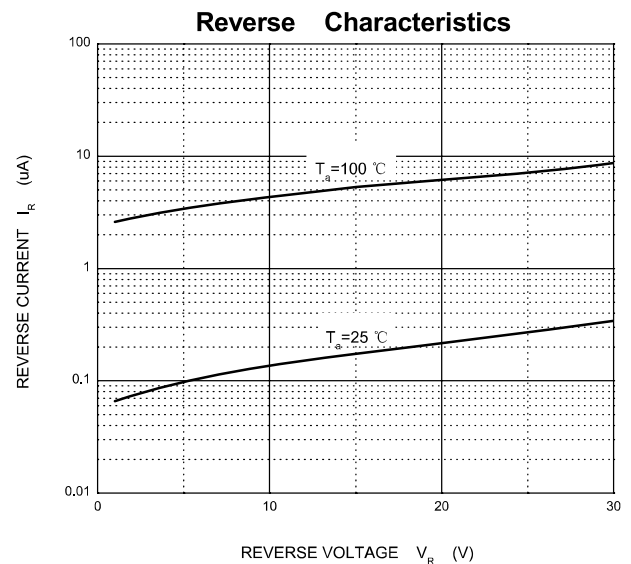
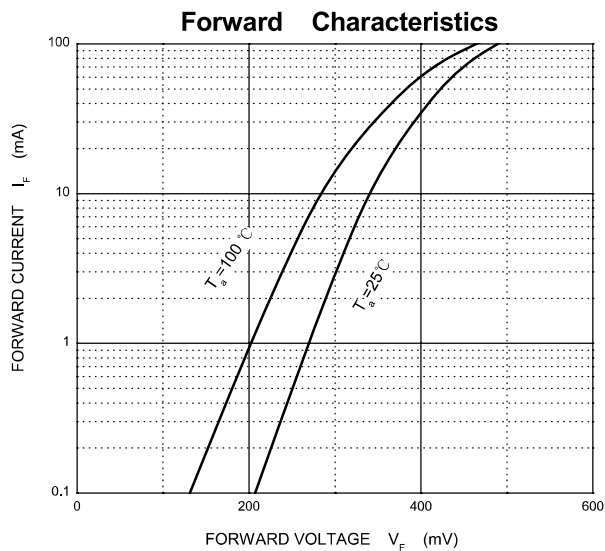
- Case : Molded plastic,SOT-523
- Polarity : Shown above
- Terminals :Plated terminals, solderable per MIL-STD-750,Method 2026
- Epoxy : UL94-V0 rated flame retardant

MAXIMUM RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{RRM}	Peak Repetitive Reverse Voltage	30	V
V_{RWM}	Working Peak Reverse Voltage		
$V_{R(RMS)}$	RMS Reverse Voltage	21	V
I_O	Average Rectified Output Current	0.2	A
I_{FSM}	Non-repetitive Peak Forward Surge Current @ $t=8.3ms$	600	mA
I_{FRM}	Repetitive Peak Forward Surge Current @ $t \leq 1s; \delta \leq 0.5$	300	mA
P_D	Power Dissipation	150	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	667	°C/W
T_j	Junction Temperature	125	°C
T_{stg}	Storage Temperature	-55~+150	°C

**200mA Plastic-Encapsulate Schottky Barrier Rectifier - 30V****ELECTRICAL CHARACTERISTICS($T_a=25^{\circ}\text{C}$ unless otherwise specified)**

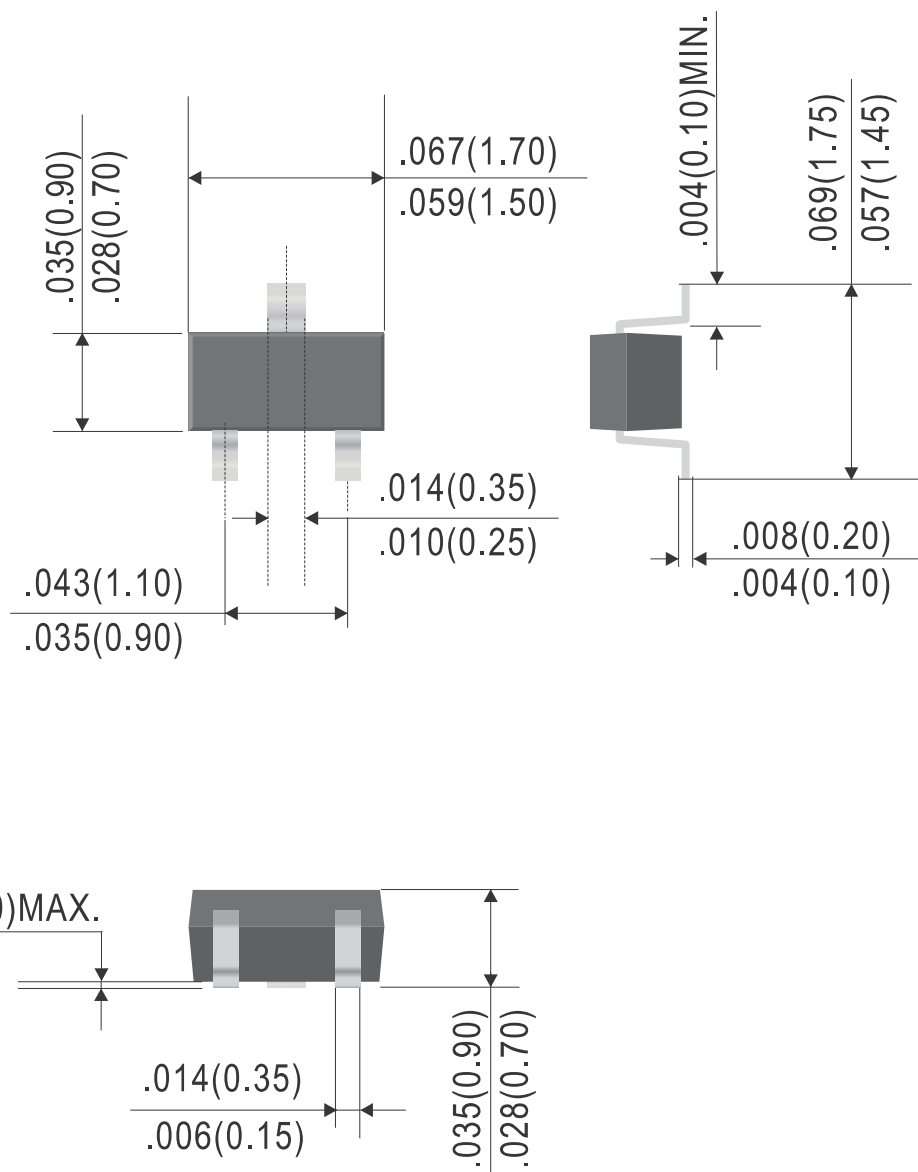
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse voltage	$V_{(BR)}$	$I_R=100\mu\text{A}$	30			V
Reverse current	I_R	$V_R=25\text{V}$			2	μA
Forward voltage	V_F	$I_F=1\text{mA}$			0.32	V
		$I_F=10\text{mA}$			0.4	
		$I_F=30\text{mA}$			0.5	
		$I_F=100\text{mA}$			1	
Total capacitance	C_{tot}	$V_R=1\text{V}, f=1\text{MHz}$			10	pF
Reverse recovery time	t_{rr}	$I_F=I_R=10\text{mA}, I_{rr}=0.1\times I_R, R_L=100\Omega$			5	ns

Typical Characteristics



Outline Drawing

SOT-523

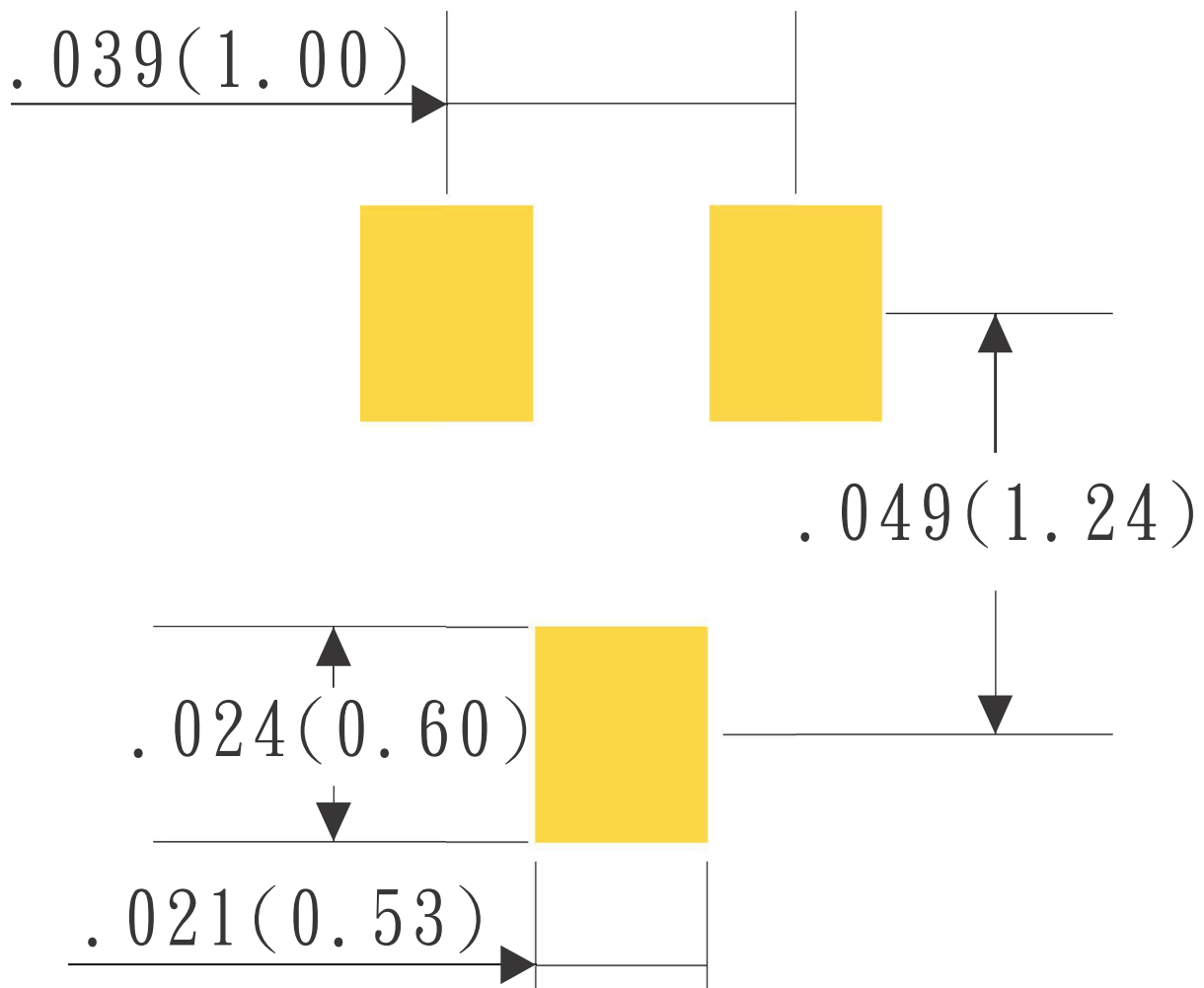


Dimensions in inches and (millimeters)

Rev.D



Suggested Soldering Pad Layout

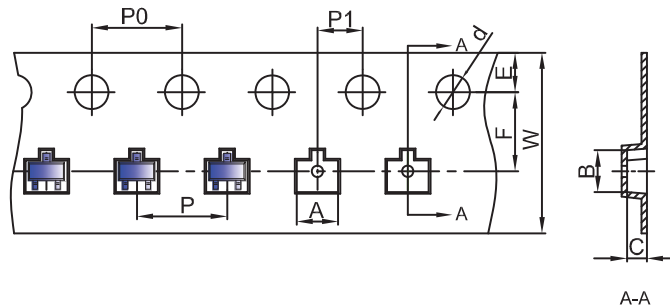
SOT-523

Dimensions in inches and (millimeters)

RevB

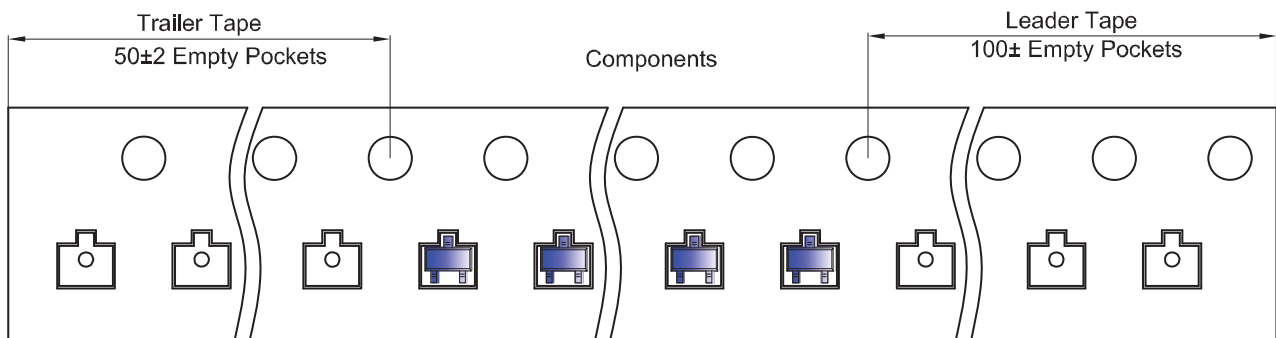


SOT-523 Embossed Carrier Tape

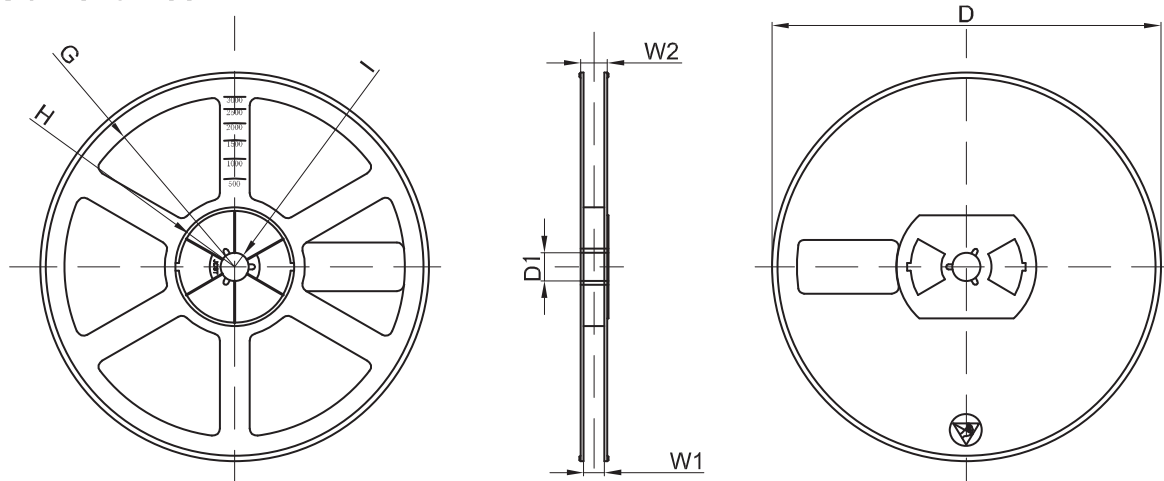


Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-523	1.85	1.85	0.875	Ø1.70	1.75	3.50	4.00	4.00	2.00	8.00
(Tolerance)	+/-0.05	+/-0.05	+/-0.05	+/-0.35	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+/-0.1	+0.3/-0.1

SOT-523 Tape Leader and Trailer



SOT-523 Reel



Dimensions are in millimeter							
Reel Option	D	D1	G	H	I	W1	W2
7"Dia	Ø178.00	13.00	R78.00	R25.60	R6.5	9.50	12.30
Tolerance	+/-2	+/-1	+/-1	+/-1	+/-1	+/-1	+/-1



Ordering Information:

Device PN	Marking ⁽⁴⁾	Packing
Part Number -T ⁽¹⁾ H ⁽²⁾ -WS ⁽³⁾	Refer to Page 1	Tape&Reel: 3 Kpcs/Reel

Note: (1) Packing code, Tape & Reel Packing

(2) Packing code suffix "G" for RoHS product : Packing code Suffix "H" for halogen free product.
All materials and products supplied comply with the U.S. Toxic Substances Control Act statement, PBT Chemicals.

(3) Willas brand abbreviation, Label Type does not display

(4) There may be additional marking, which relates to the lot trace code information (data code and vendor code), the logo or the environmental category on the device

Disclaimer

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This is the preliminary specification. WILLAS products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of WILLAS. Customers using or selling WILLAS components for use in such applications do so at their own risk and shall agree to fully indemnify WILLAS Inc and its subsidiaries harmless against all claims, damages and expenditures.

◆Mounting and Storage Conditions

Willas has set the following requirements for the heat resistance of components.

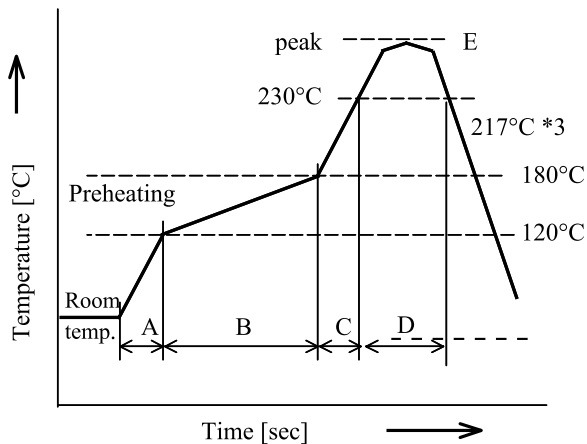
[Assumption] Moisture absorption prior to the reflow/flow soldering of components in dry pack.

With components in dry pack, reflow/flow soldering shall be completed within 168 hours after unpacking

(Storage environment:30°C 70%RH)

1.Reflow soldering

Temperature profile



Conditions

	Components size *1	☐ 28mm or less	☐ Over 28mm	Unit
A	Temp. rise gradient *2	1 - 3		°C/sec
B	Heating time	50 - 150		sec
	Heating temperature	120 - 180		°C
C	Temp. rise gradient *2	1 - 3		°C/sec
D	Time over 230°C	90	70	sec
	Peak temperature	260	250	°C
E	Peak-temp. hold time	1-10	1-10	sec
	Soldering	2		times

*1.Length or width, whichever is the greater outside dimension (length for a rectangular component)

*2.Temperatures and time for A through E in the table above shall be measured on the top surface of the components size.

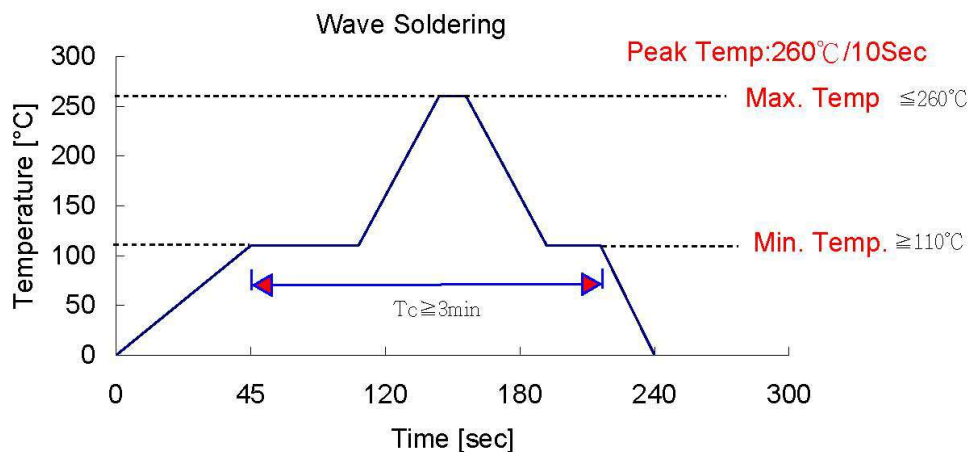
*3.Time over 217 °C be 90-150 seconds .

2.Flow (wave) soldering (solder dipping)

Peak temperature	260°C
Dipping time	10 sec
Soldering	1 time

SMD : Dipping the entire component

component for Insertion :Dipping to the lead joint of component



3. Hand soldering / touchup

Soldering iron tip temperature	380°C
Soldering time	3 sec



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Moisture Sensitivity Level (MSL)

If devices are not handled correctly, in accordance with their MSL conditions, then they will start to naturally absorb moisture. When heated rapidly during reflow soldering, the moisture turns to steam. If it cannot escape quickly enough the pressure built up may damage the component by cracking the package moulding, an effect known as “Popcorning”.

IPC/JEDEC J-STD-020C also defines device MSLs as part of the specification. MSL Level 1 is used for products supplied without moisture proof packaging. The products of Willas have an MSL Level of 1.

The Table below details the MSL Levels and conditions defined by J-STD-020C

MSL	Floor Life Time	Floor Conditions
1	Unlimited	$\leq 30^{\circ}\text{C}/ 85\% \text{ RH}$
2	1 Year	$\leq 30^{\circ}\text{C}/ 60\% \text{ RH}$
2a	4 Weeks	$\leq 30^{\circ}\text{C}/ 60\% \text{ RH}$
3	168 Hours	$\leq 30^{\circ}\text{C}/ 60\% \text{ RH}$
4	72 Hours	$\leq 30^{\circ}\text{C}/ 60\% \text{ RH}$
5	48 Hours	$\leq 30^{\circ}\text{C}/ 60\% \text{ RH}$
5a	24 Hours	$\leq 30^{\circ}\text{C}/ 60\% \text{ RH}$
6	Time on Label	$\leq 30^{\circ}\text{C}/ 60\% \text{ RH}$