

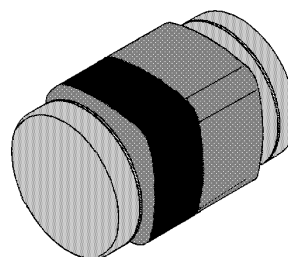
MCL914, MCL914A, MCL914B

SILICON EPITAXIAL PLANAR DIODES

LS-31

Features

- Saving space
- Hermetic sealed parts
- Fits onto SOD 323 / SOT 23 footprints
- Electrical data identical with the device 1N4148
- Micro Melf package

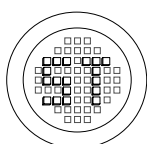


Applications

- Extreme fast switches

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

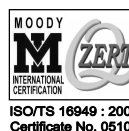
Characteristic	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	75	V
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current (Note 1)	I_{FM}	MCL914 300 MCL914A / B	mA
Average Rectified Output Current (Note 1)	I_O	75 200	mA
Non-Repetitive Peak Forward Surge Current MCL914 @ $t = 1\text{s}$ MCL914 @ $t = 1\mu\text{s}$ MCL914A / B @ $t = 1\mu\text{s}$	I_{FSM}	1 1 4	A
Power Dissipation (Note 1) Derate Above 25°C	P_d	500 1.68	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	300	K/W
Operating and Storage Temperature Range	T_j, T_s	-65 to +175	$^\circ\text{C}$



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Dated : 20/08/2002

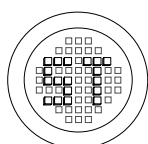
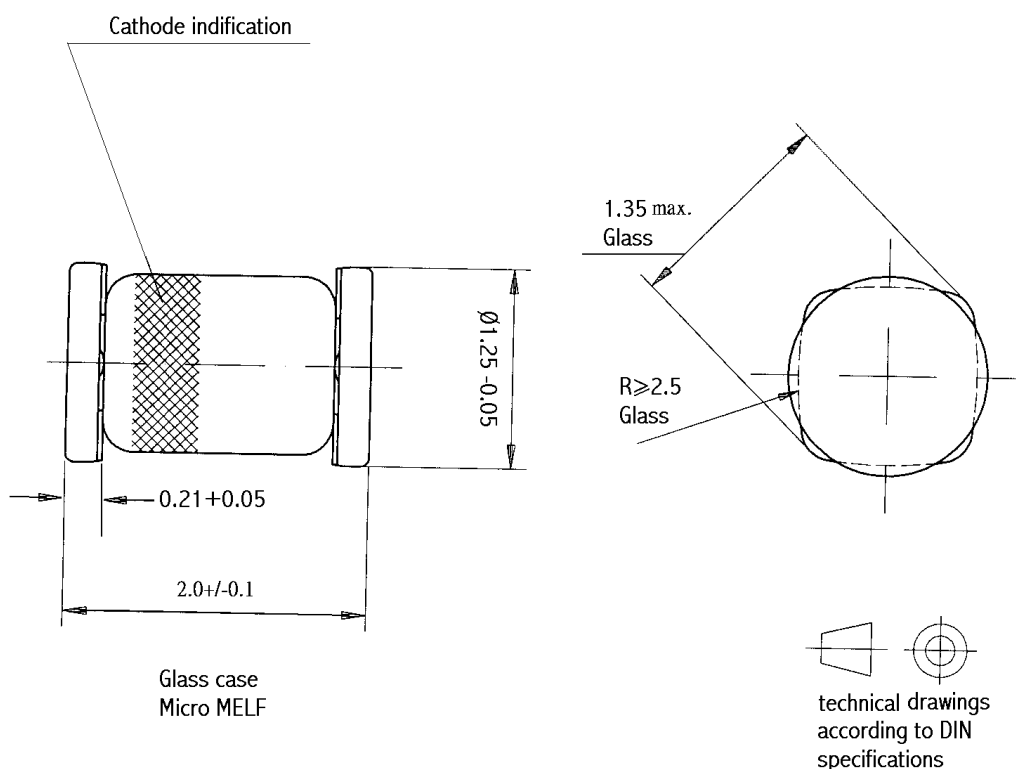
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Characteristics at $T_j = 25^\circ\text{C}$

Characteristic		Symbol	Min.	Max.	Unit
Forward Voltage					
at $I_F = 5\text{mA}$	1N914B	V_F	0.62	0.72	V
at $I_F = 100\text{mA}$	1N914B		-	1	
at $I_F = 10\text{mA}$	1N914		-	1	
at $I_F = 20\text{mA}$	1N914A		-	1	
Peak Reverse Current					
at $V_R = 75\text{V}$		I_R	-	5	μA
at $V_R = 20\text{V}$, $T_A = 150^\circ\text{C}$			-	50	μA
at $V_R = 20\text{V}$			-	25	nA
Diode Capacitance		C_o	-	4	pF
Reverse Recovery Time		T_{RR}	-	4	nS
at $I_F = 10\text{mA}$ to $I_R = 1\text{mA}$, $V_R = 6\text{V}$, $R_L = 100\Omega$					

Note 1: Valid provided that lead are kept at ambient temperature at a distance of 8 mm.

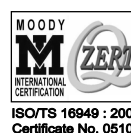
Dimensions in mm



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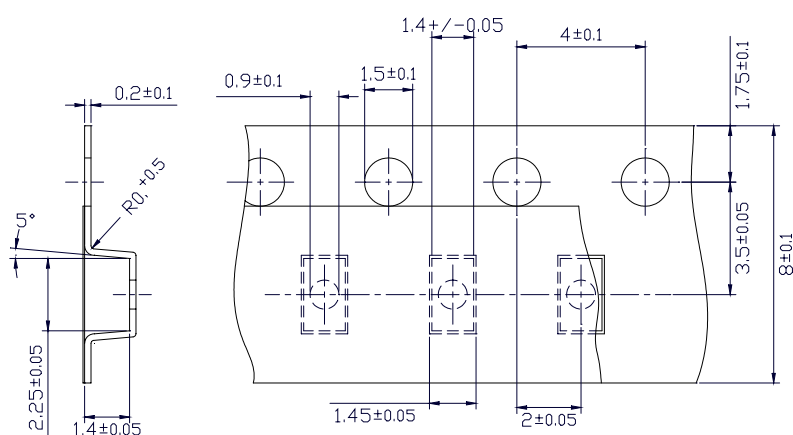
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Technical Information

Taping of SMD-Components

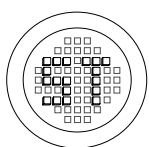
We supplies the SMD components either in bulk or in 8-mm or 12-mm blister tapes depending on type of case.

Both the tape dimensions for the cases MicroMELF and dimensions of the reels are shown in the following figures.



Accumulated pitch tolerance is ± 0.2 mm over 10 pitches

8-mm carrier tape for MicroMELF package
dimensions in mm



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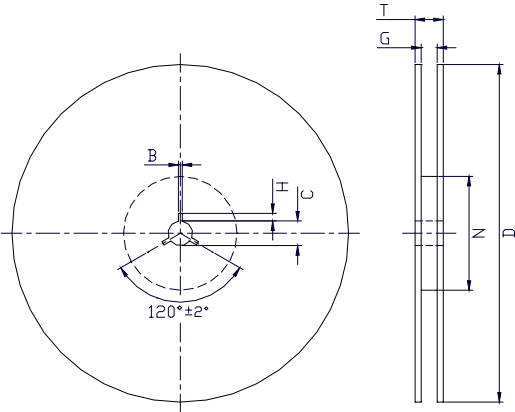
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The beginning of the tape comprises a 200 mm long lead-in with vacant nests and at the hub end of the tape there are 10 to 20 sealed nests containing no devices .This end of the tape automatically detaches from the hub of the reel at the end of the in reeling procedure(Draft DIN IEC 49(CO)564).

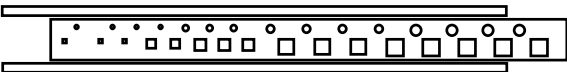
The packaging units for taped devices are

Type of case	Qty / reel	Reel Ø
MicroMELF	2,500	178mm

	8-mm carrier tape	12-mm carrier tape
B	2±0.5	2±0.5
C	13±0.5	13±0.5
D	178±2	330±2
G	8.4±1.5	12.4±2
H	4±0.5	4±0.5
N	60	60
T	<14.9	<20

Dimensions in mm

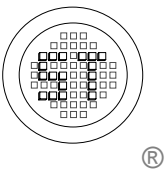
Pull-out direction



Reel for 8-mm and 12-mm carrier tapes

The carrier tape consists of a plastic tape with "nests" having a size corresponding to the components requirements. The sprocket holes are on one side of the tape. The blister tapes are sealed with a cover tape.

The cathode side of the components MicroMELF cases are adjacent to the sprocket holes. Other orientation can be supplied on demand.



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