

LV124 series

at a glance

Electrical and electronic components
of road vehicles up to 3.5t

The relating standards:

LV124

BMW GS 95024-2-2

MBN LV124-1

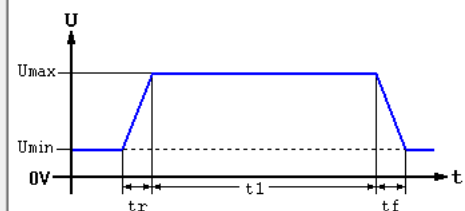
VW 80000

E-01: Long term overvoltage

U_{max} [V]: 17.0

U_{min} [V]: 13.5

T_{test} = T_{max} - 20K



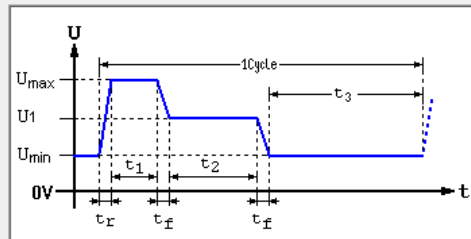
t_r [ms]: < 10.0 t₁ [min]: 60.0 t_f [ms]: < 10.0

E-02: Transient overvoltage

U_{max} [V]: 18.0

U₁ [V]: 17.0

U_{min} [V]: 16.0



Testcase

☒ Case 1

☐ Case 2

☐ Case 3

t_r [ms]: 1.0

t₁ [ms]: 400.0

Cycles:

t_f [ms]: 1.0

t₂ [ms]: 600.0

3

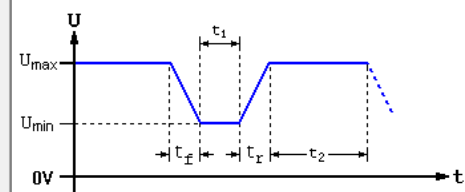
T_{test} = T_{max}

t₃ [s]: 2.0

E-03: Transient undervoltage

U_{max} [V]: 10.8

U_{min} [V]: 9.0



Testcase

☒ Case 1

☐ Case 2

t_f [ms]: 1.8

t₁ [ms]: 500.0

Cycles:

t_r [ms]: 1.8

t₂ [s]: 1.0

3

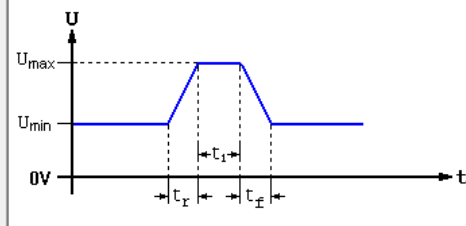
T_{test} = T_{max}

E-04:

Jump start

U_{max} [V]: 26.0

U_{min} [V]: 10.8



t_r [ms]: < 10.0

t₁ [s]: 60.0

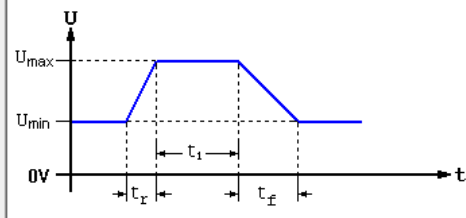
t_f [ms]: < 10.0

E-05:

Load dump

U_{max} [V]: 27.0

U_{min} [V]: 13.5



t_r [ms]: <= 2.0

t₁ [ms]: 300.0

t_f [ms]: <= 30.0

Cycles: 10

Breaktime [min]: 1.0

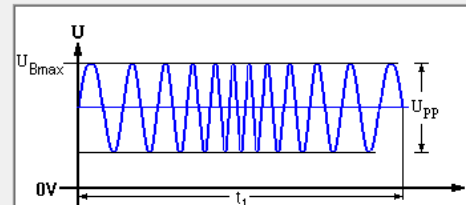
E-06:

Component immunity to ripple on power supply leads

U_{Bmax} [V]: 16.0

U_{pp} [V]: 2.0

R_i [Ohm] <= 100.0



Testcase

- ☒ Case 1
☐ Case 2
☐ Case 3
☐ Customer

f_{min} [Hz]: 15.0

f_{max} [kHz]: 30.0

t₁ [min]: 2.0

Cycles: 15

E-07:

Slow decrease and increase of the supply voltage

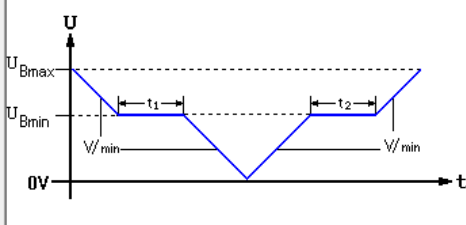
U_{Bmax} [V]: 16.0

U₁ [V]: 9.0

U₂ [V]: 9.0

U_{min} [V]: 0.0

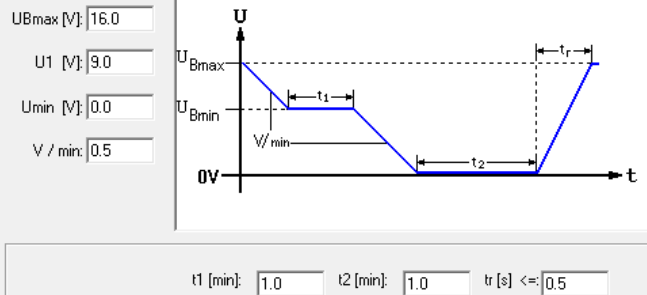
V / min: 0.5



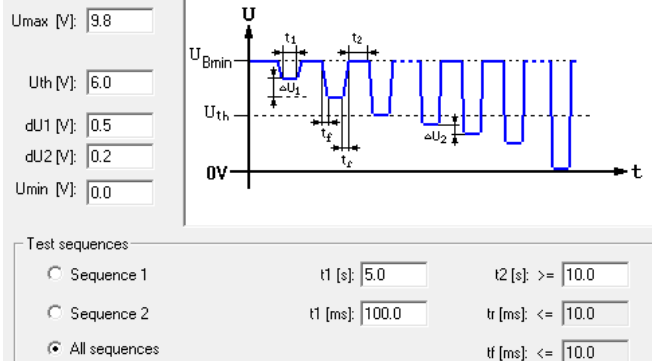
t₁ [min]: 1.0

t₂ [min]: 1.0

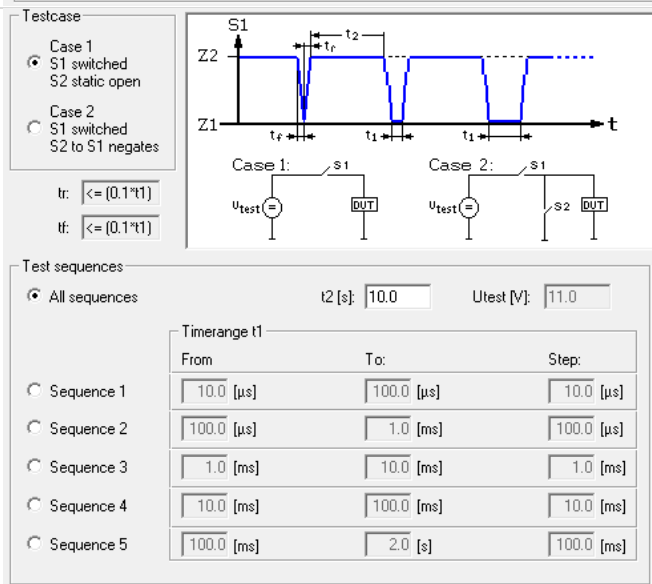
E-08:
Slow decrease, quick increase of the supply voltage



E-09:
Reset behaviour

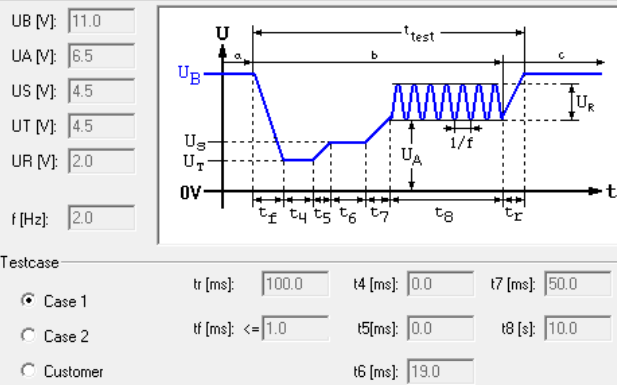


E-10:
Short interruptions on supply lines

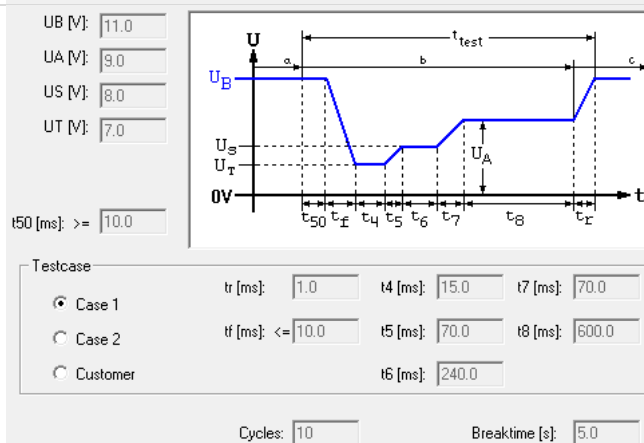


E-11:

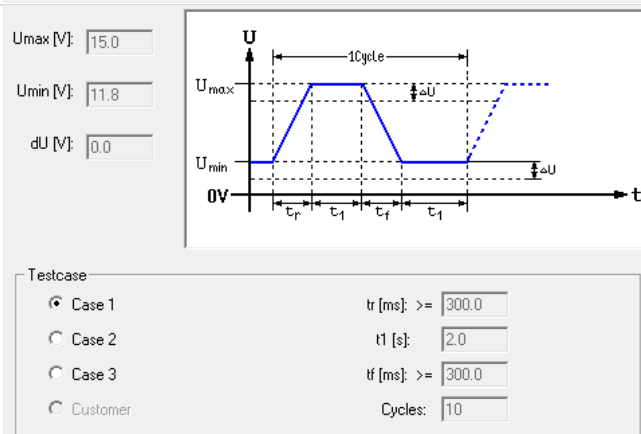
Start pulses / cranking profile
Cold start


E-11:

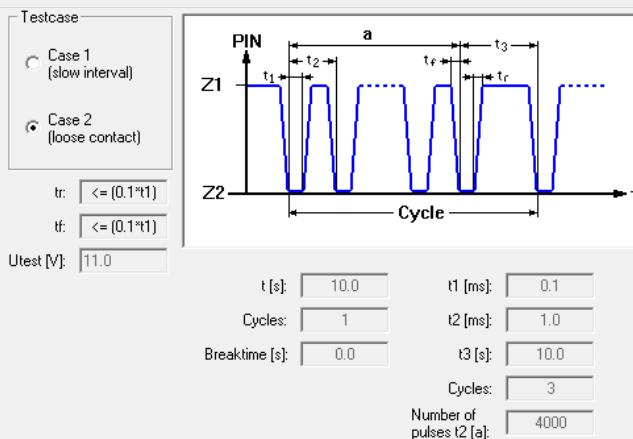
Start pulses / cranking profile
Warm start

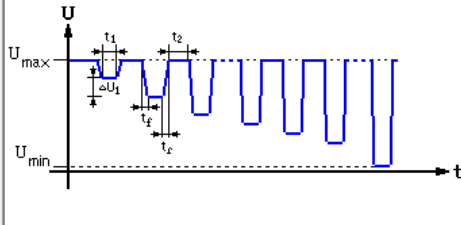
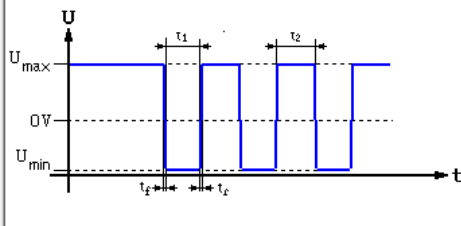
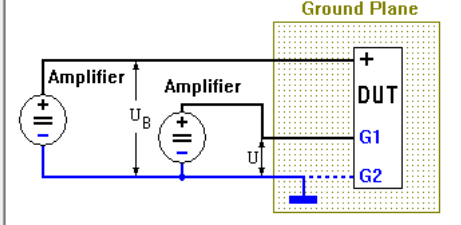
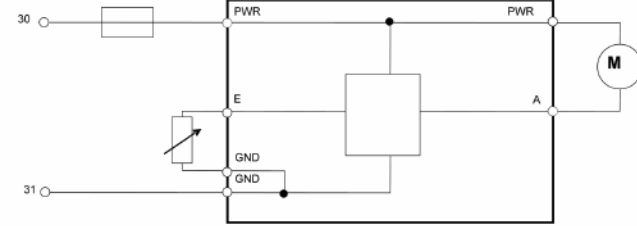

E-12:

Voltage curve with IGR


E-13:

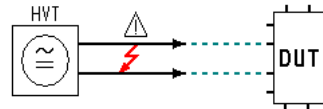
Short interruptions on signal and
data lines



E-14: Connector interruption	Not yet available
E-15: Reverse polarity static	<div data-bbox="719 421 1374 875"> <div> U_{max} [V]: 0.0 dU [V]: -1.0 U_{min} [V]: -14.0 </div>  <div> Testcase <input checked="" type="radio"/> Severity 1 t_r [ms]: ≤ 10.0 t₁ [s]: 60.0 <input type="radio"/> Severity 2 t_f [ms]: ≤ 10.0 t₂ [s]: ≥ 60.0 R_i [mOhm]: < 100.0 </div> <div> <input type="checkbox"/> The operating voltage is switched off by a relay for polarity reversal. Die Betriebsspannung wird bei Verpolung durch ein Relais abgeschaltet. </div> </div>
E-15: Reverse polarity dynamic	<div data-bbox="719 907 1374 1368"> <div> U_{max} [V]: 10.8 U_{min} [V]: -4.0 Cycles: 3 </div>  <div> Testcase <input checked="" type="radio"/> Severity 1 t_r [ms]: ≤ 10.0 t₁ [s]: 60.0 <input type="radio"/> Severity 2 t_f [ms]: ≤ 10.0 t₂ [min]: ≤ 5.0 R_i [mOhm]: < 100.0 </div> <div> <input type="checkbox"/> The operating voltage is switched off by a relay for polarity reversal. Die Betriebsspannung wird bei Verpolung durch ein Relais abgeschaltet. </div> </div>
E-16: Ground offset	<div data-bbox="719 1393 1374 1771">  <div> U [V]: 1.0 t_d [s]: 10.0 </div> <div> Attention: On a battery or second voltage source U_B is to be applied. Achtung: An einer Batterie oder zweiten Spannungsquelle ist U_B anzulegen. </div> </div>
E-17: Short circuit in signal circuit and load circuits	

E-18:
Isolation resistance

U_pruef [V]:

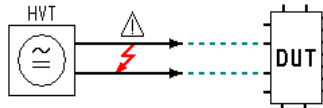
U_DC [V]:

Isolation resistance [MΩm]:

Duration [s]:

Attention: The DUT have to be heated in the hot air oven to 35°C ± 2°C and 50% ± 5% relative humidity!
Achtung: Der DUT muss im Heißluftofen auf 35°C ± 2°C bei einer Luftfeuchtigkeit von 50% ± 5% erhitzt werden!

E-20:
Dielectric strength

U_eff [V]:

U_DC [V]:

Input current [mA]:

f [Hz]:

Attention: The DUT have to be heated in the hot air oven to 35°C ± 2°C and 50% ± 5% relative humidity!
Achtung: Der DUT muss im Heißluftofen auf 35°C ± 2°C bei einer Luftfeuchtigkeit von 50% ± 5% erhitzt werden!

Duration [s]: