

## Derating Curves 352x /351x

Derating curves describe the correlation between the maximum permissible current load of the connector and the ambient temperature. There is always a base curve given (representing ideal, theoretical maximums) and a corrected curve (adjusting these data for safe, real-world application).

Here, examples of derating curves are shown, for small, medium and higher pole numbers, used with two different wire cross sections. These are intended to provide guidance for various application scenarios. The derating curves of the 9-pin connectors are also applied when the number of poles is further increased. Derating curves of direct mating contacts are valid for chem. tin and HAL tin PCBs. Other influencing factors must always be taken into account, such as the cross-section and further specifications of the cable used, and all application-specific standards.

It is the user’s responsibility to ensure that a selected Lumberg product is suitable for the intended application.

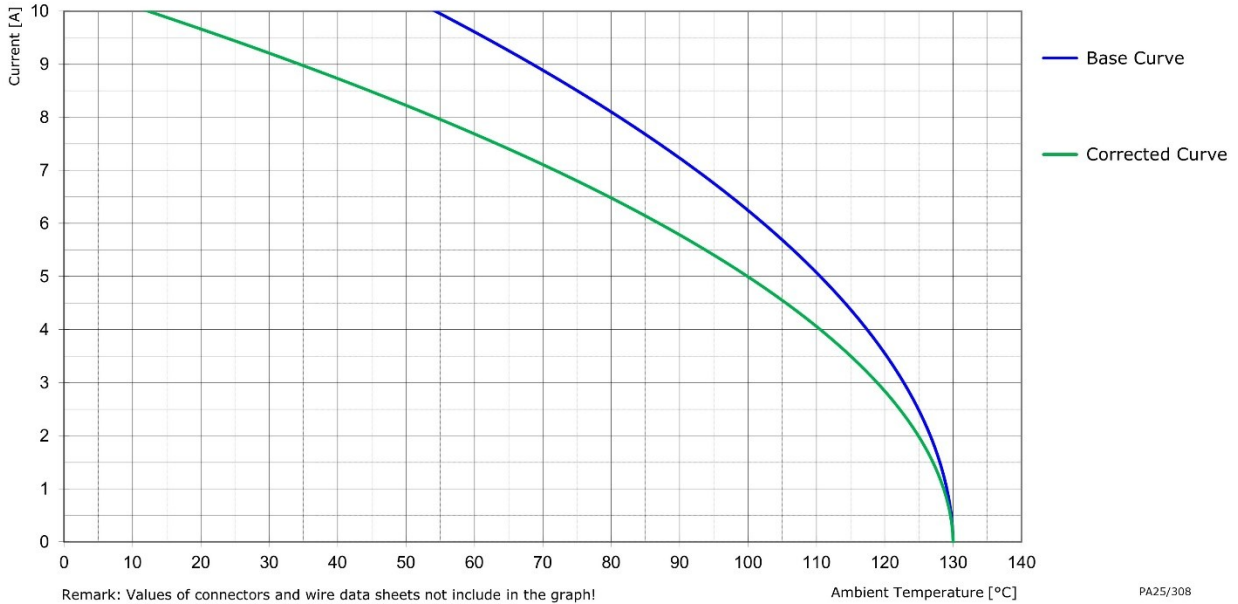
**The following derating curves are valid for 352x, 351x, 354x and 355x.**

|      |   |           |
|------|---|-----------|
| 1.   | Direct Mating .....                     | 2         |
| 1.1. | <b>3521 02</b> .....                    | <b>2</b>  |
| 1.2. | <b>3521 05</b> .....                    | <b>3</b>  |
| 1.3. | <b>3521 09</b> .....                    | <b>4</b>  |
| 2.   | Indirect Mating .....                   | 5         |
| 2.1. | <b>3521 02 with 3550 02</b> .....       | <b>5</b>  |
| 2.2. | <b>3521 05 with 3550 05</b> .....       | <b>6</b>  |
| 2.3. | <b>3521 09 with 3550 09</b> .....       | <b>7</b>  |
| 3.   | Indirect Mating – Cable Extention ..... | 8         |
| 3.1. | <b>3521 02 with 3541 02</b> .....       | <b>8</b>  |
| 3.2. | <b>3521 05 with 3541 05</b> .....       | <b>9</b>  |
| 3.3. | <b>3521 09 with 3541 09</b> .....       | <b>10</b> |

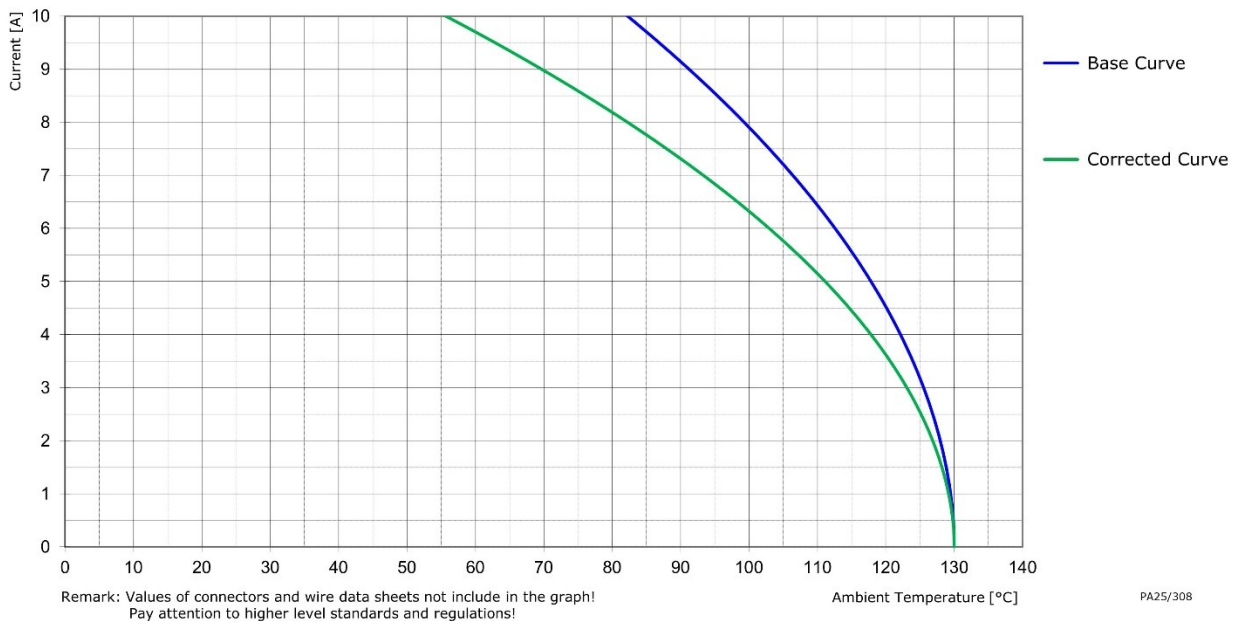
# 1. Direct Mating

## 1.1. 3521 02

**Direct: 3521 02**  
 PCB: FR4, 35 µm Cu double-sided, chem. Sn  
 Wire size 0.14 mm<sup>2</sup>

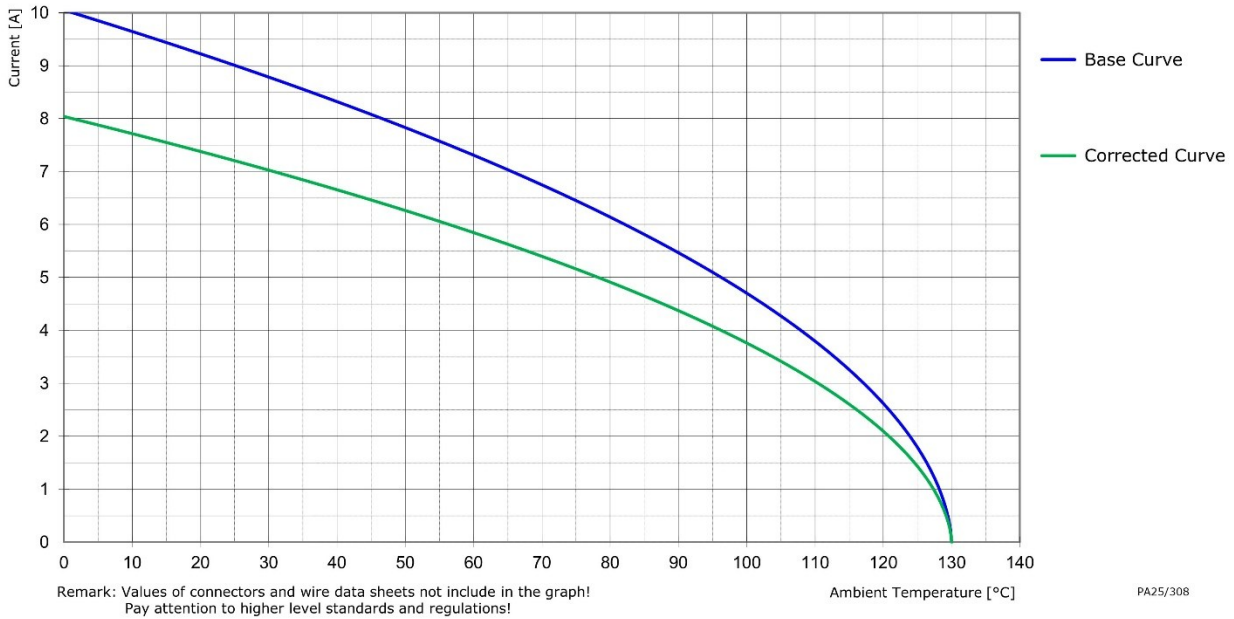


**Direct: 3521 02**  
 PCB: FR4, 35 µm Cu double-sided, chem. Sn  
 Wire size 0.38 mm<sup>2</sup>

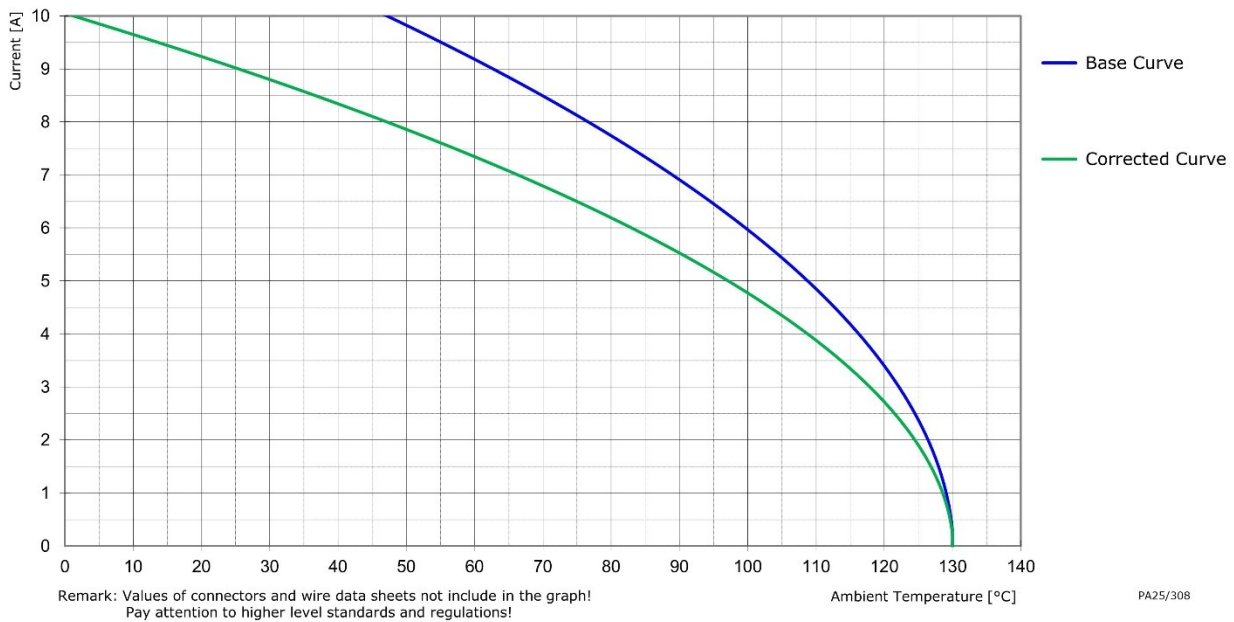


1.2. 3521 05

**Direct: 3521 05**  
 PCB: FR4, 35 µm Cu double-sided, chem. Sn  
 Wire size 0.14 mm<sup>2</sup>

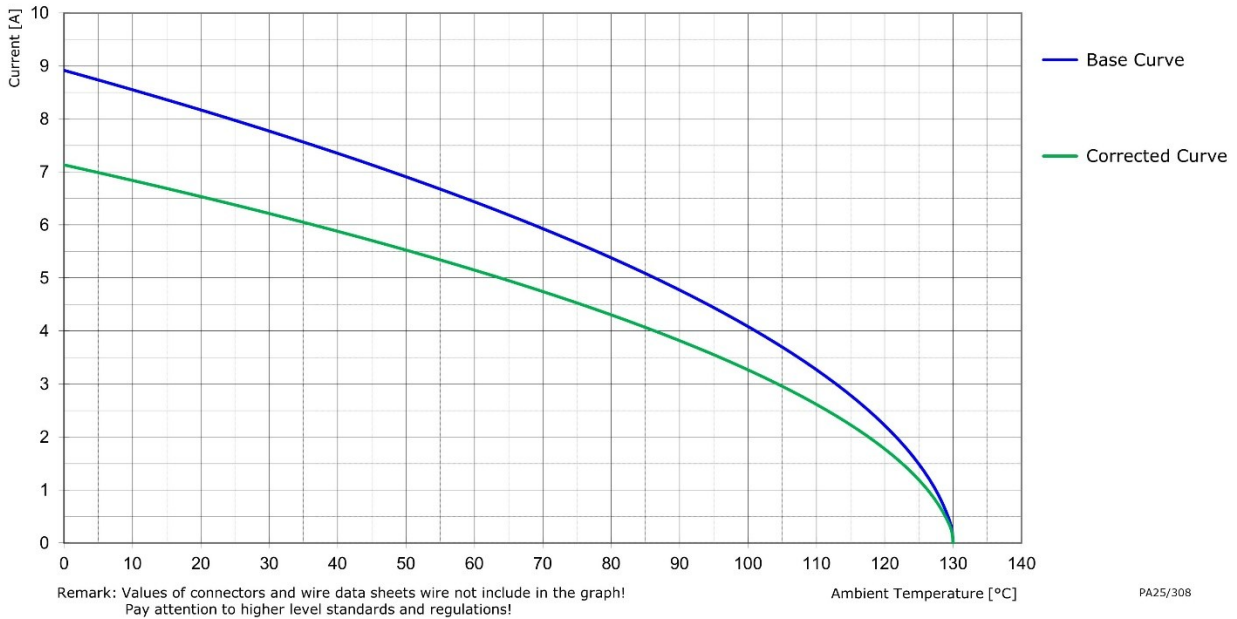


**Direct: 3521 05**  
 PCB: FR4, 35 µm Cu double-sided, chem. Sn  
 Wire size 0.38 mm<sup>2</sup>

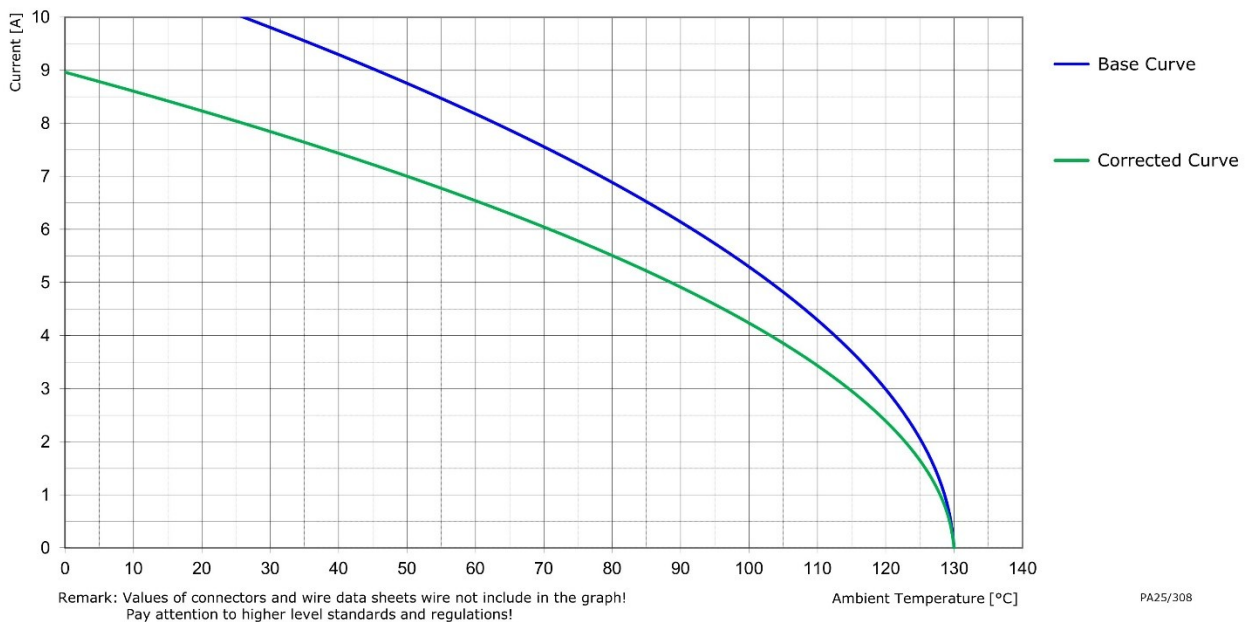


1.3. 3521 09

**Direct: 3521 09**  
 PCB: FR4, 35 µm Cu double-sided, chem. Sn  
 Wire size 0.14 mm<sup>2</sup>



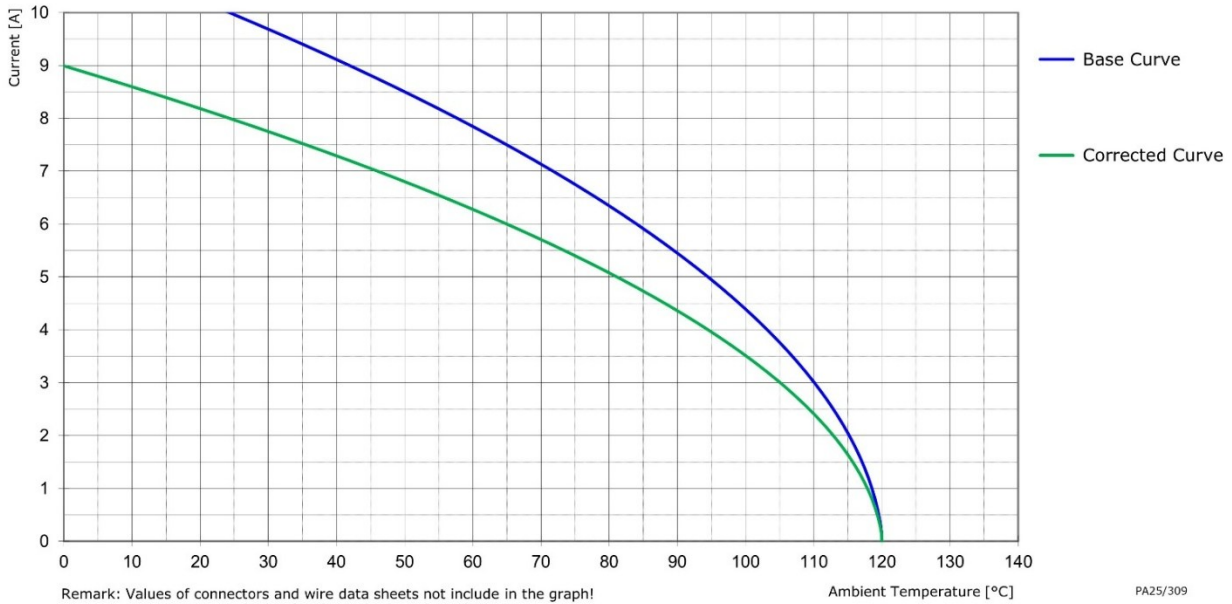
**Direct: 3521 09**  
 PCB: FR4, 35 µm Cu double-sided. chem. Sn  
 Wire size 0.38 mm<sup>2</sup>



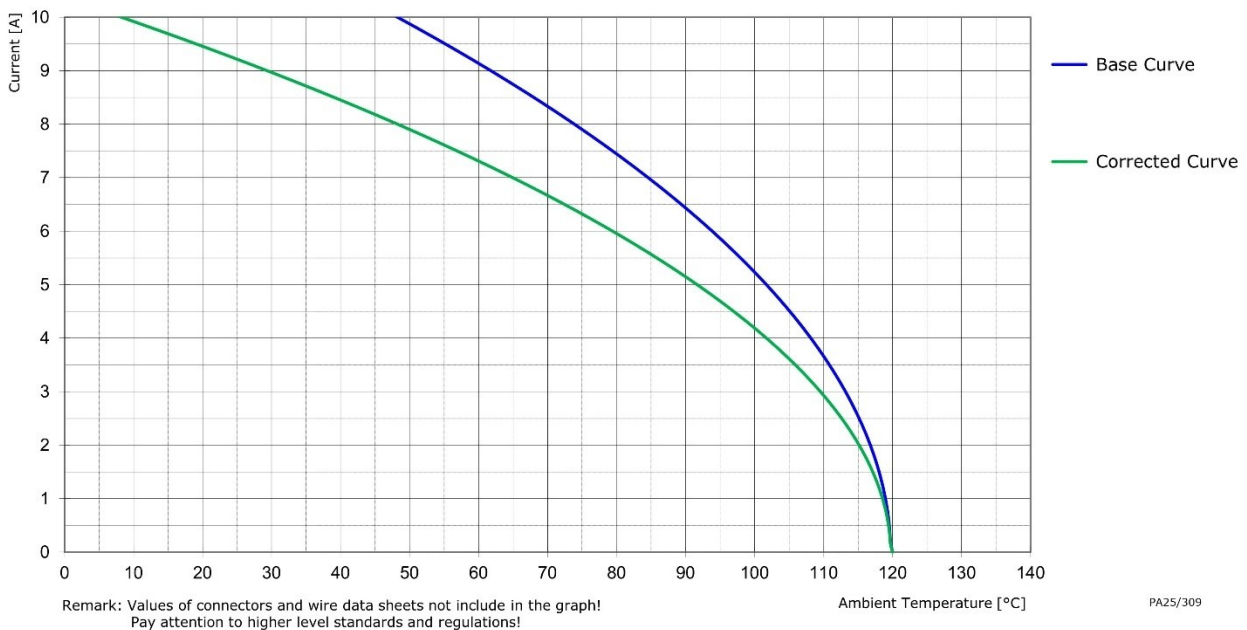
## 2. Indirect Mating

### 2.1. 3521 02 with 3550 02

**Indirect: 3521 02 with 3550 02**  
 PCB: FR4, 35 µm Cu double-sided, chem. Sn  
 Wire size 0.14 mm<sup>2</sup>

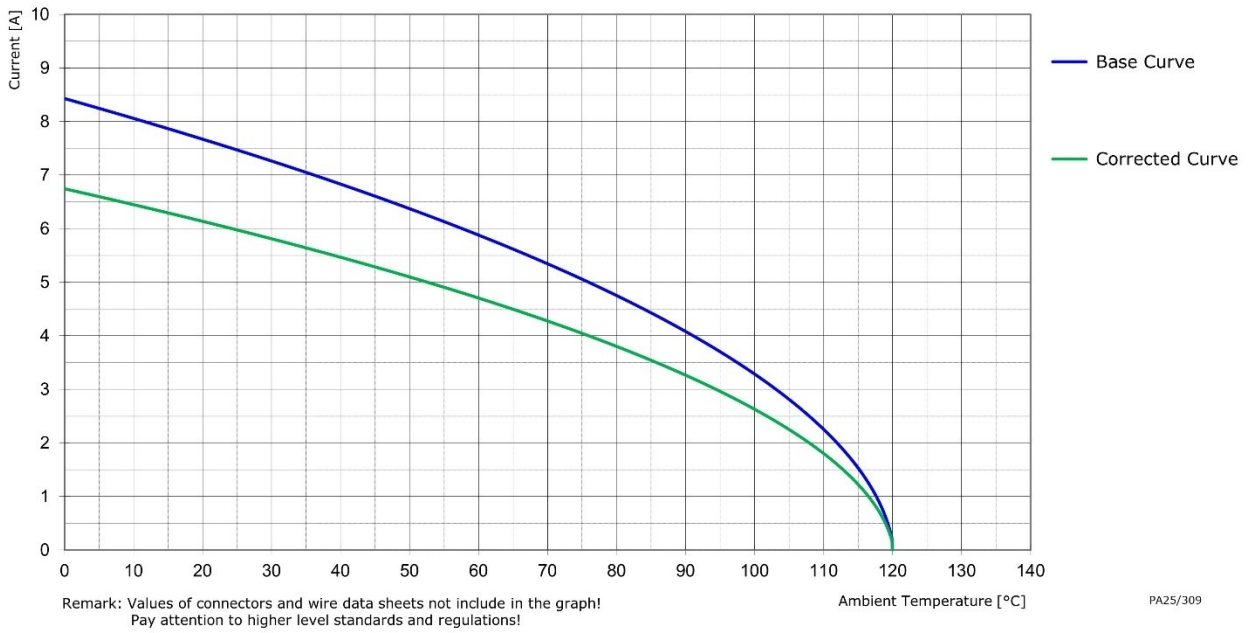


**Indirect: 3521 02 with 3550 02**  
 PCB: FR4, 35 µm Cu double-sided, chem. Sn  
 Wire size 0.38 mm<sup>2</sup>

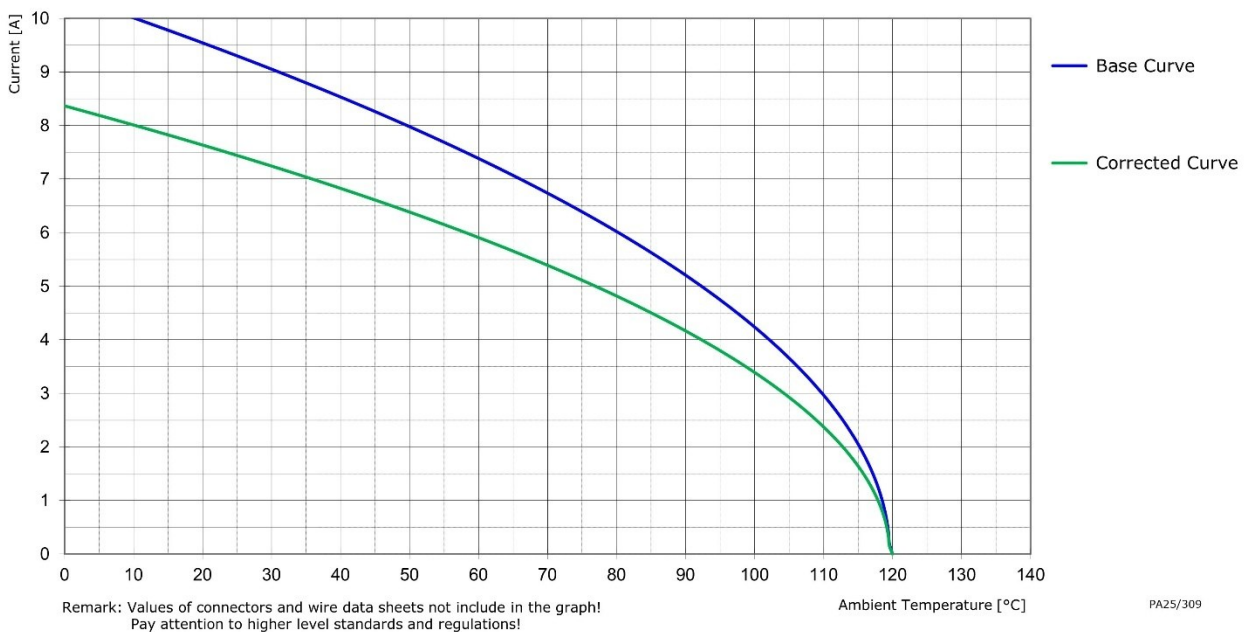


2.2. 3521 05 with 3550 05

**Indirect: 3521 05 with 3550 05**  
 PCB: FR4, 35 µm Cu double-sided, chem. Sn  
 Wire size 0.14 mm<sup>2</sup>

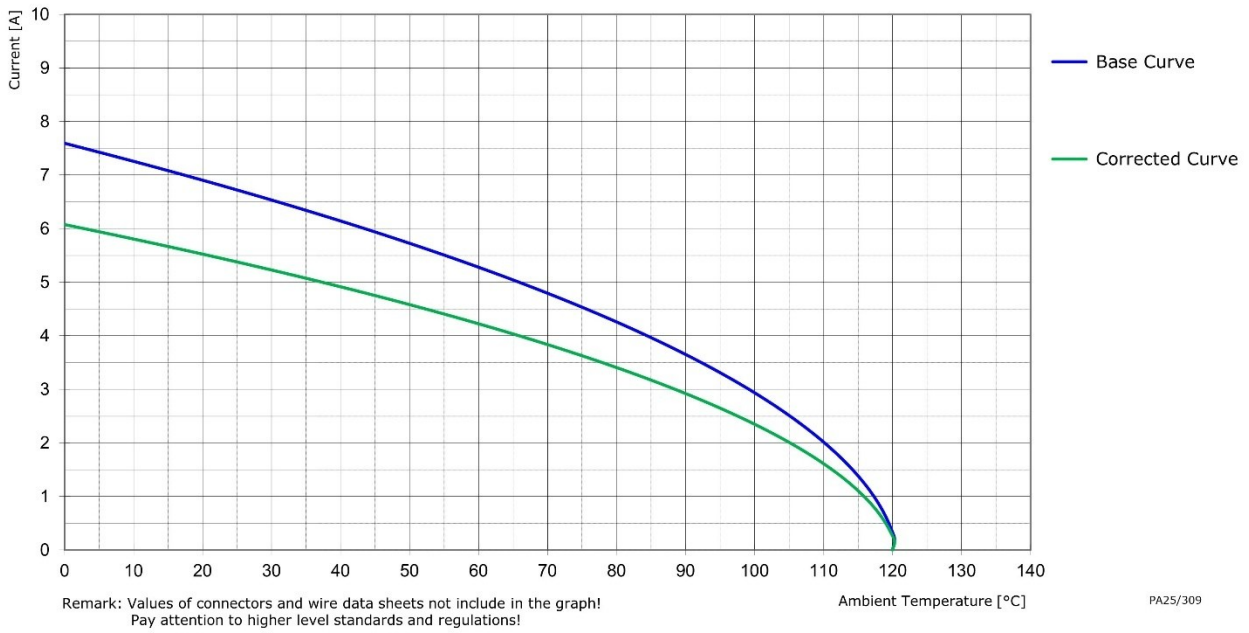


**Indirect: 3521 05 with 3550 05**  
 PCB: FR4, 35 µm Cu double-sided, chem. Sn  
 Wire size 0.38 mm<sup>2</sup>

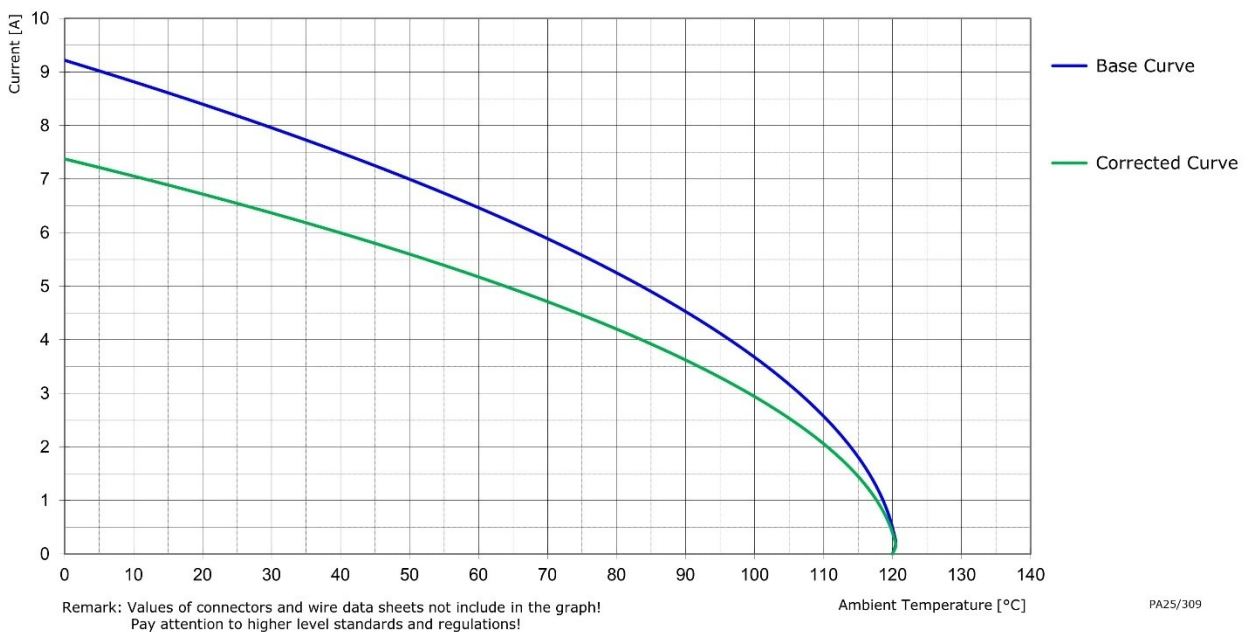


2.3. 3521 09 with 3550 09

**Indirect: 3521 09 with 3550 09**  
 PCB: FR4, 35 µm Cu double-sided, chem. Sn  
 Wire size 0.14 mm<sup>2</sup>



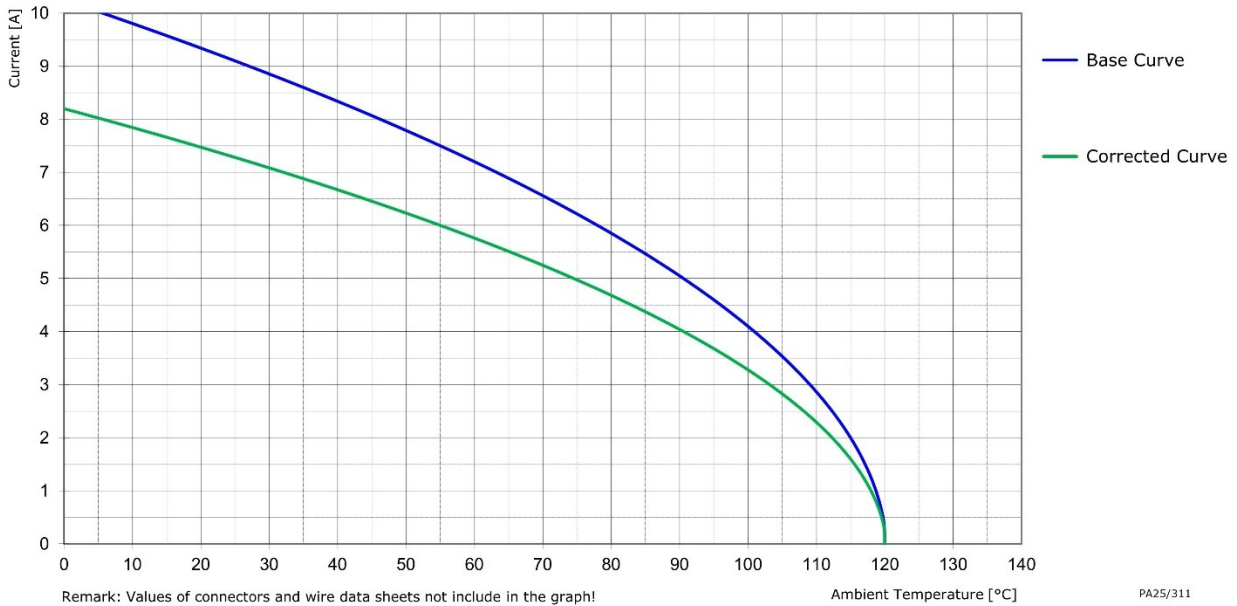
**Indirect: 3521 09 with 3550 09**  
 PCB: FR4, 35 µm Cu double-sided, chem. Sn  
 Wire size 0.38 mm<sup>2</sup>



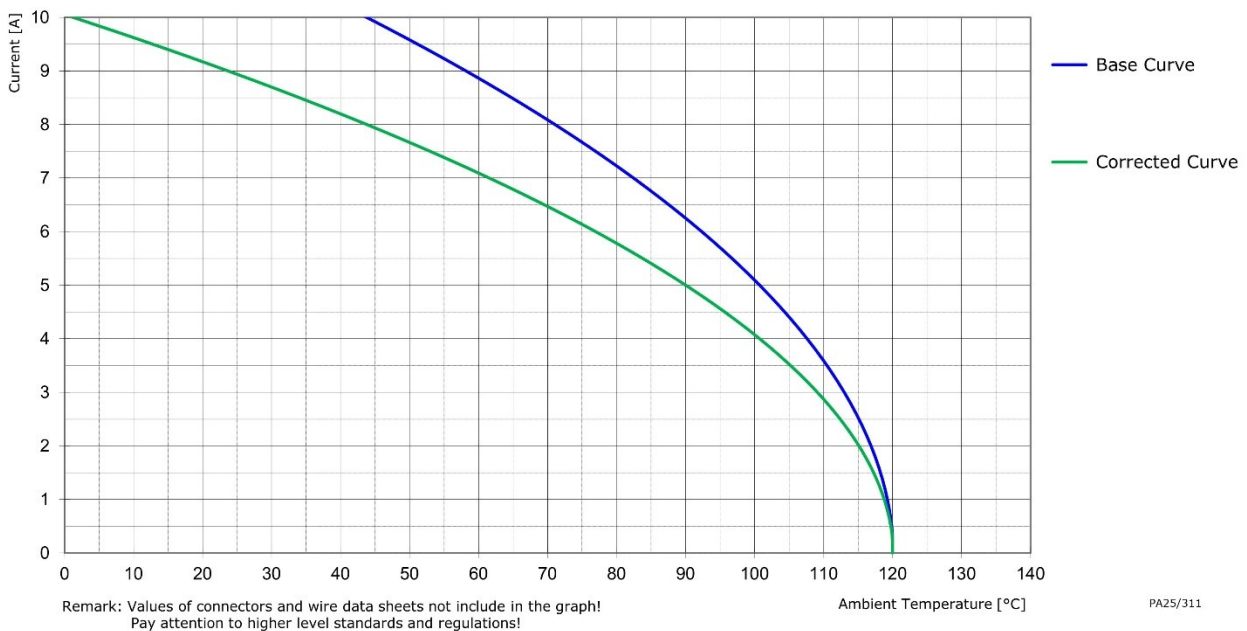
### 3. Indirect Mating – Cable Extension

#### 3.1. 3521 02 with 3541 02

**Indirect: 3521 02 with 3541 02**  
Wire size 0.22 mm<sup>2</sup>

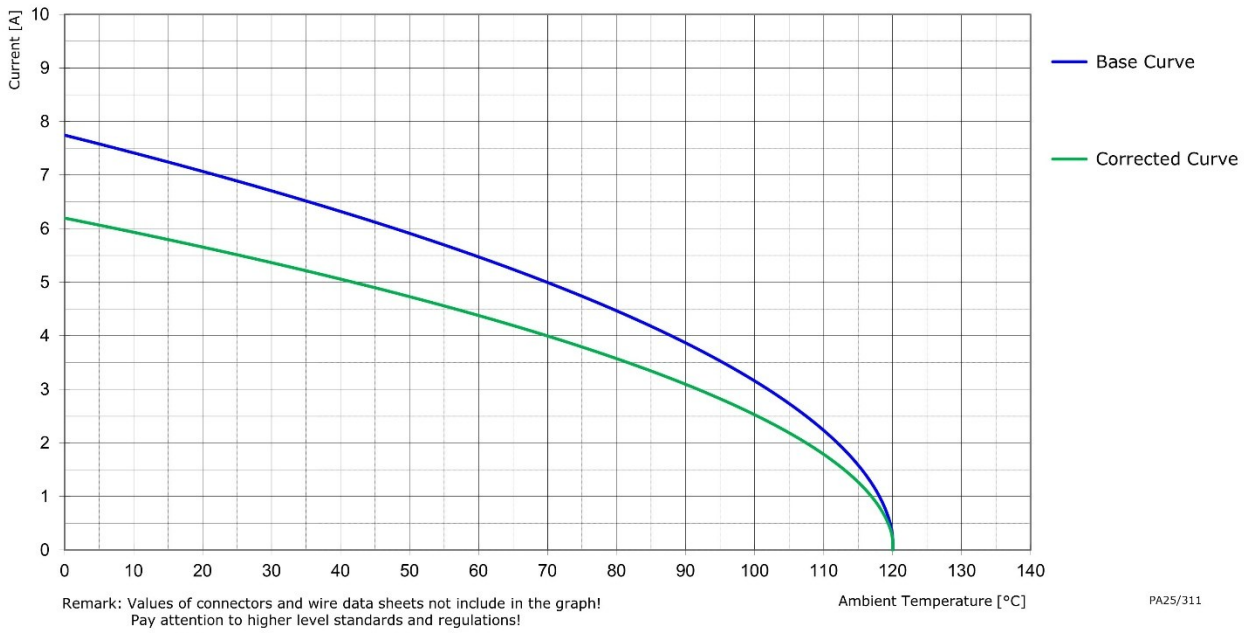


**Indirect: 3521 02 with 3541 02**  
Wire size 0.38 mm<sup>2</sup>

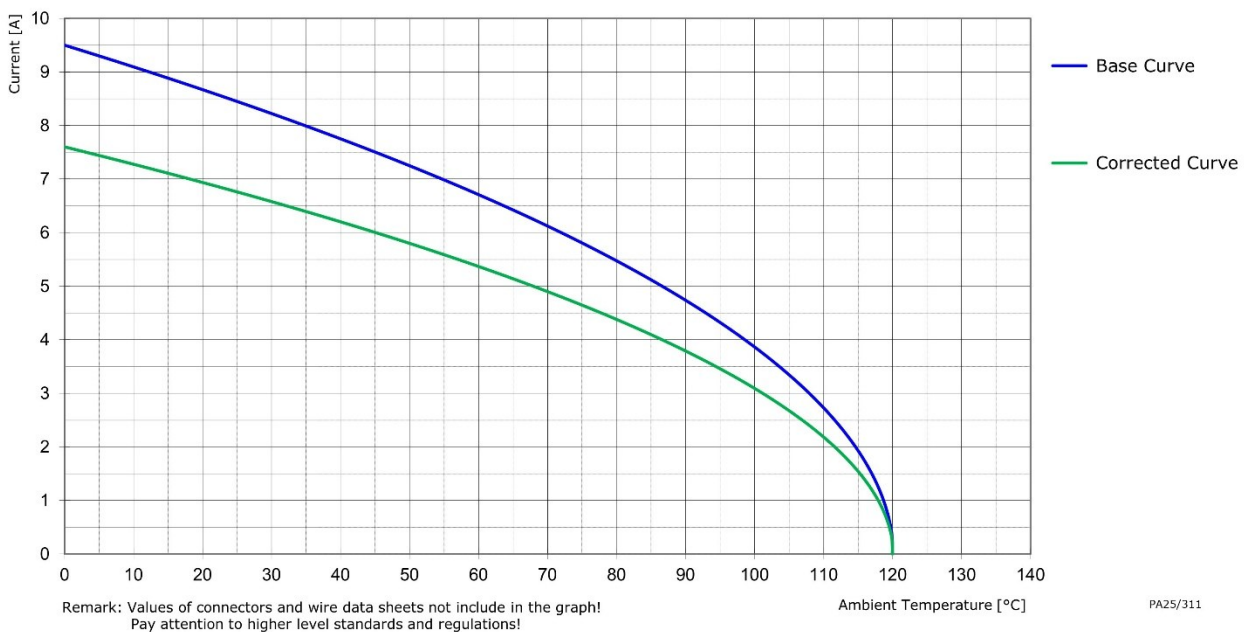


3.2. 3521 05 with 3541 05

**Indirect: 3521 05 with 3541 05**  
Wire size 0.22 mm<sup>2</sup>

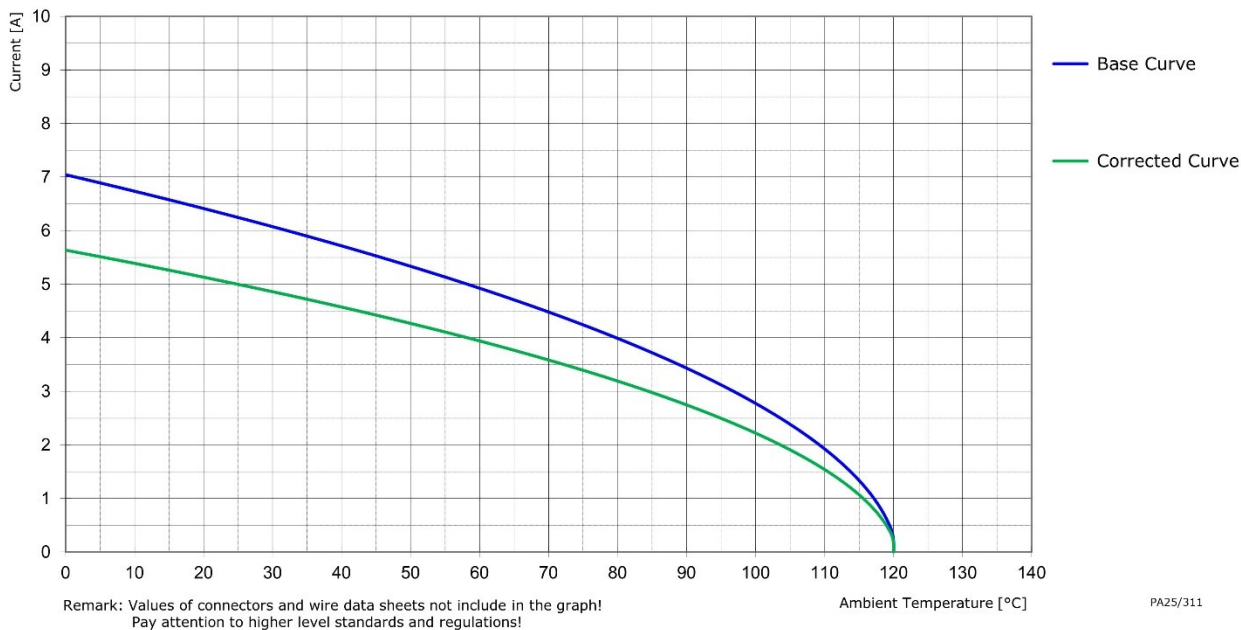


**Indirect: 3521 05 with 3541 05**  
Wire size 0.38 mm<sup>2</sup>



3.3. 3521 09 with 3541 09

**Indirect: 3521 09 with 3541 09**  
Wire size 0.22 mm<sup>2</sup>



**Indirect: 3521 09 with 3541 09**  
Wire size 0.38 mm<sup>2</sup>

