

|                                |                                                                                                                                                               |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Title of Change:</b>        | Datasheet update for Vgs condition of maximum ratings and IGSS test condition                                                                                 |
| <b>Effective date:</b>         | 21 Jul 2026                                                                                                                                                   |
| <b>Contact information:</b>    | Contact your local onsemi Sales Office                                                                                                                        |
| <b>Type of notification:</b>   | This Product Bulletin is for notification purposes only.<br>onsemi will proceed with implementation of this change upon publication of this Product Bulletin. |
| <b>Change Category:</b>        | Datasheet update                                                                                                                                              |
| <b>Change Sub-Category(s):</b> | Datasheet/Product Doc change                                                                                                                                  |

**Sites Affected:**

|                     |                                      |
|---------------------|--------------------------------------|
| <b>onsemi Sites</b> | <b>External Foundry/Subcon Sites</b> |
| None                | None                                 |

**Description and Purpose:**

onsemi wishes to inform customers of its plan to update datasheet parameters for SiC 650V MOSFET discrete products. The change involves revision of Gate-to-Source Voltage maximum ratings and Gate-to-Source Leakage current test conditions based on extended reliability validation results, including High Temperature Gate Bias (HTGB) and Dynamic Gate Stress (DGS) testing. These updates are intended to reflect improved product performance and reliability capability.

**1. MAXIMUM RATINGS**

| Parameter                        | Symbol   | Value                   |          | Unit |
|----------------------------------|----------|-------------------------|----------|------|
|                                  |          | Current                 | Updated  |      |
| Gate-to-Source Voltage           | $V_{gs}$ | -8/22                   | -10/22.6 | V    |
| Gate-to-Source Transient Voltage | $V_{gs}$ | tp<0.5us, Duty Cycle≤1% | -11/25   | V    |

**2. ELECTRICAL CHARACTERISTICS**

|                          | Parameter                      | Symbol    | Test Conditions       | Min | Typ | Max  | Unit |
|--------------------------|--------------------------------|-----------|-----------------------|-----|-----|------|------|
| <b>Current Datasheet</b> | Gate-to-Source Leakage Current | $I_{GSS}$ | VGS=-8/22V, VDS=0V    | -   | -   | ±1.0 | μA   |
| <b>Updated Datasheet</b> | Gate-to-Source Leakage Current | $I_{GSS}$ | VGS=-10/22.6V, VDS=0V | -1  | -   | 1    | μA   |

The change will not impact form, fit, or function of products.

**List of Affected Standard Parts:**

**Note:** Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the [PCN Customized Portal](#).

|                 |                 |                |
|-----------------|-----------------|----------------|
| NTBG023N065M3S  | NTBG032N065M3S  | NTBL023N065M3S |
| NTH4L032N065M3S | NTH4L023N065M3S | NTBL032N065M3S |