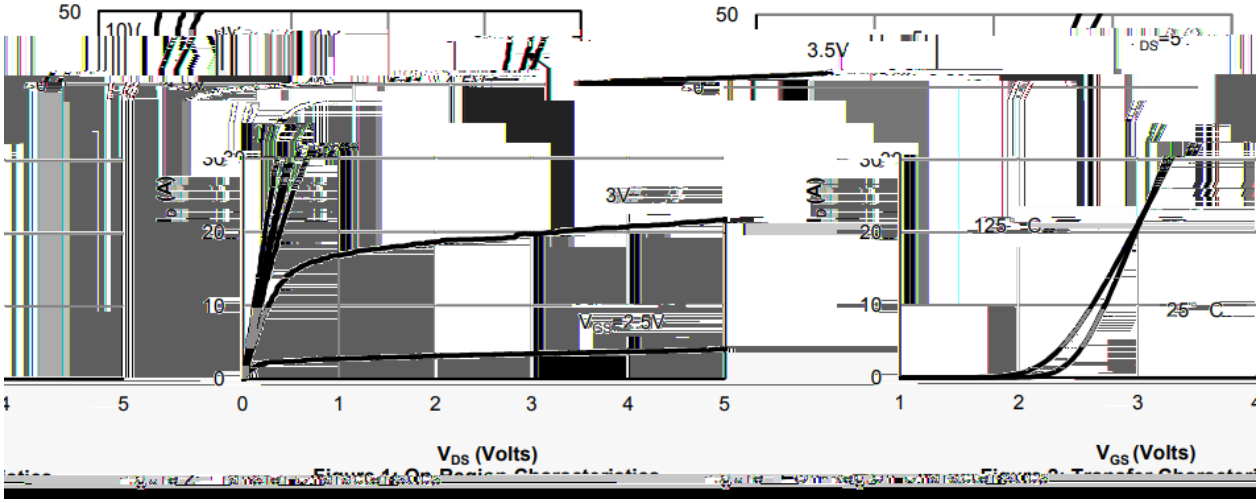
| @ ƒ<br>Parameter | | … Z<br>Symbol | ƒ ›<br>Rating | % y<br>Unit |
|---|---|---|---|---|
| Drain-Source Voltage | | $V_{DS}$ | 60 | V |
| Continuous Drain Current | | $I_D$ | 43 | A |
| Pulsed Drain Current | | $I_{DM}$ | 111 | A |
| Gate-Source Voltage | | $V_{GS}$ | f 20 | V |
| Power Dissipation | | $P_D(T_c$=25 ) | 43 | W |
| Avalanche energy(L=0.5mH) | | $E_{AS}$ | 200 | mJ |
| Avalanche Current(L=0.5mH) | | $I_{AS}$ | 20 | A |
| Junction and Storage Temperature Range | | $T_j$, $T_{stg}$ | -55 to 150 | - |
| Maximum Junction-to-Ambient | t 0 10s | R ©JA | 25 | / W |
| | Steady-State | | 60 | |
| Maximum Junction-to-Case | Steady-State | R ©JC | 2.9 | |

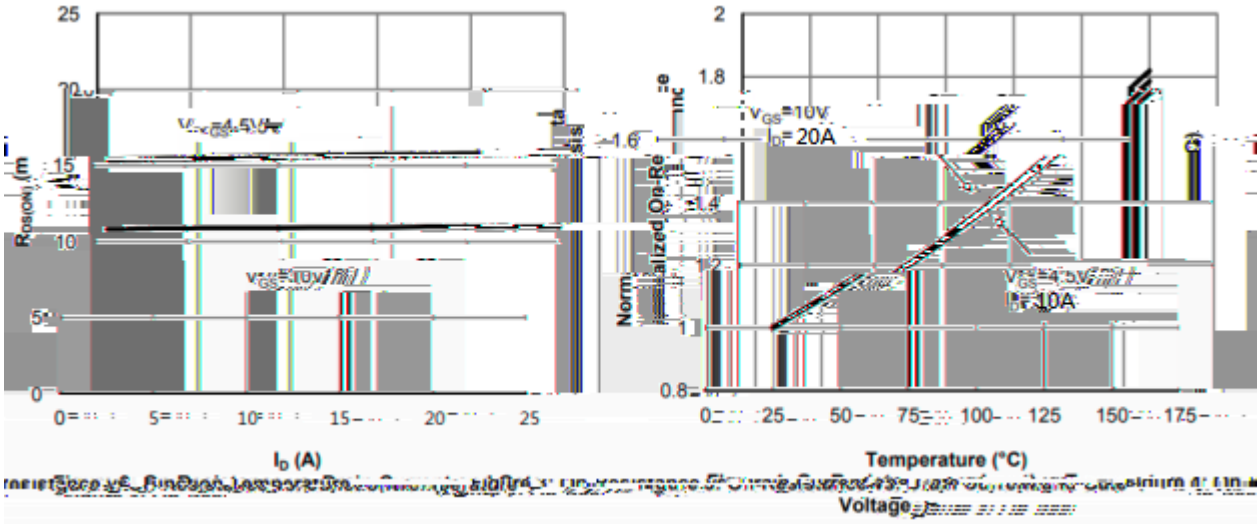
| @ ƒ<br>Parameter | … Z<br>Symbol | y ¡ Ú ^<br>Test Conditions | Â 4 ›<br>Min | Á º ›<br>Typ | Â Ý ›<br>Max | % y<br>Unit |
|---|---|---|---|---|---|---|
| Drain-Source Breakdown Voltage | $BV_{DSS}$ | $V_{GS}$=0V $I_D$=250 A | 60 | 64 | | V |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$=60V $V_{GS}$=0V | | | 1 | A |
| Gate-Body Leakage Current Forward | $I_{GSS}$ | $V_{GS}$=±20V $V_{DS}$=0V | | | ±0.1 | A |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}$=$V_{GS}$ $I_D$=250 A | 1.0 | 1.6 | 2.5 | V |
| Static Drain-Source On-Resistance | $R_{DS(on)}$ | $V_{GS}$=10V $I_D$=20A | | 11.5 | 13 | m |
| | | $V_{GS}$=4.5V $I_D$=10A | | 15.5 | 18 | m |
| Drain-Source Diode Forward Voltage | $V_{SD}$ | $V_{GS}$=0V $I_S$=1A | | | 1.2 | V |
| Input Capacitance | $C_{iss}$ | $V_{DS}$=25V $V_{GS}$=0V f=1.0MHz | | 1010 | | pF |
| Output Capacitance | $C_{oss}$ | | | 250 | | |
| Reverse Transfer Capacitance | $C_{rss}$ | | | 280 | | |
| Gate resistance | $R_g$ | $V_{GS}$=0V 6 2 6 e V DS | | | | |

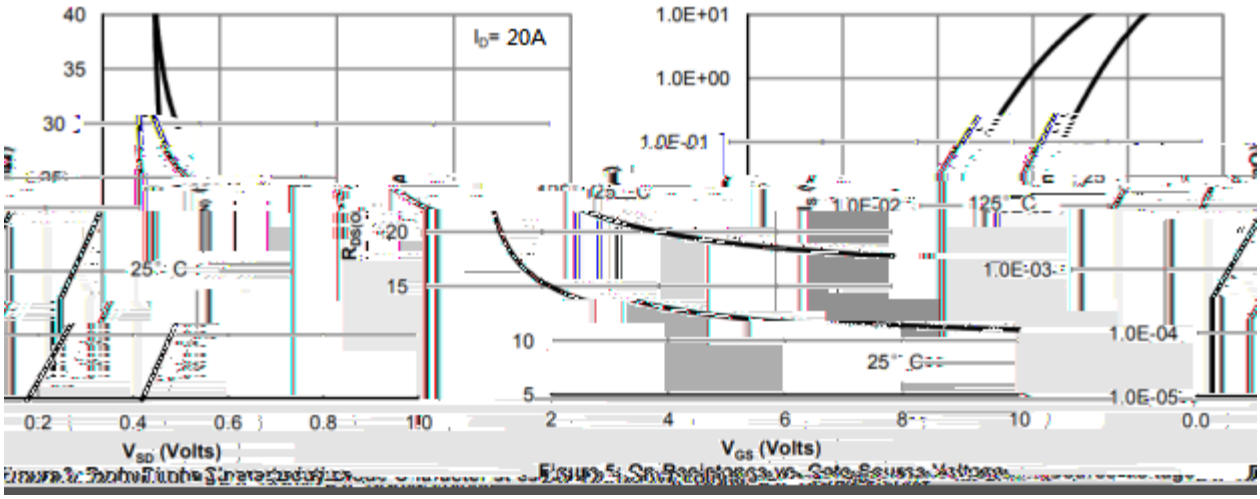
## Ô4ì × ? d / Electrical Characteristics(Ta=25 ; )

| @ ƒ<br>Parameter | … Z<br>Symbol | y ¡ Ú ^<br>Test Conditions | Â 4 ›<br>Min | Á º ›<br>Typ | Â Ý ›<br>Max | % y<br>Unit |
|---|---|---|---|---|---|---|
| Turn-On Delay Time | $t_{d(on)}$ | $V_{GS}$=10V $V_{DS}$=30V<br>$R_L$=2.3 $R_{GEN}$=3 | | 5 | | ns |
| Turn-On Rise Time | $t_r$ | | | 3 | | |
| Turn-Off Delay Time | $t_{d(off)}$ | | | 19 | | |
| Turn-Off Fall Time | $t_f$ | | | 3 | | |

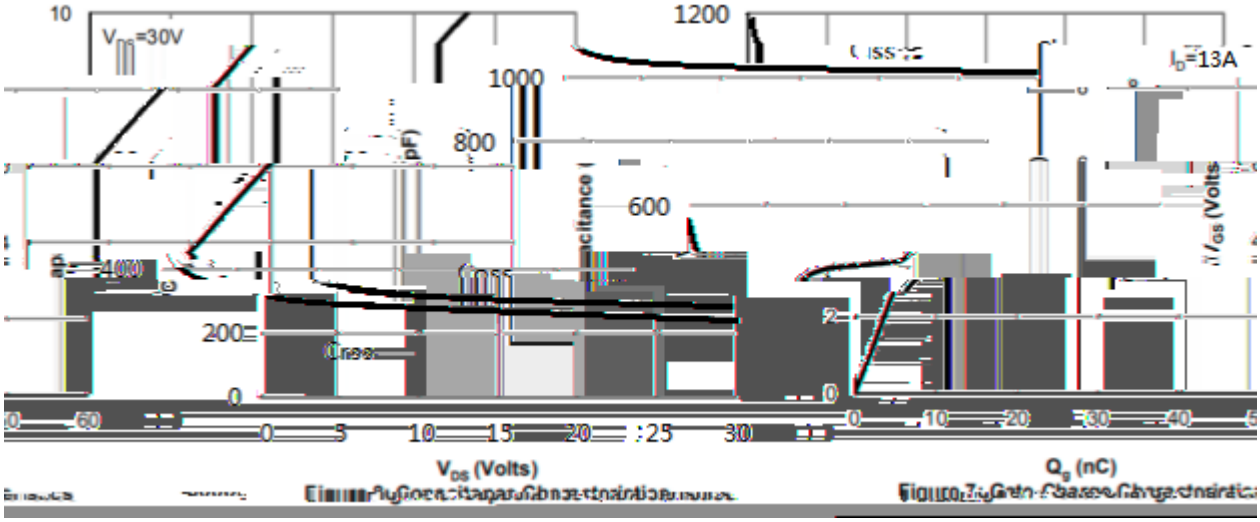
## Ô ? d • Ž ¢ / Electrical Characteristic Curve

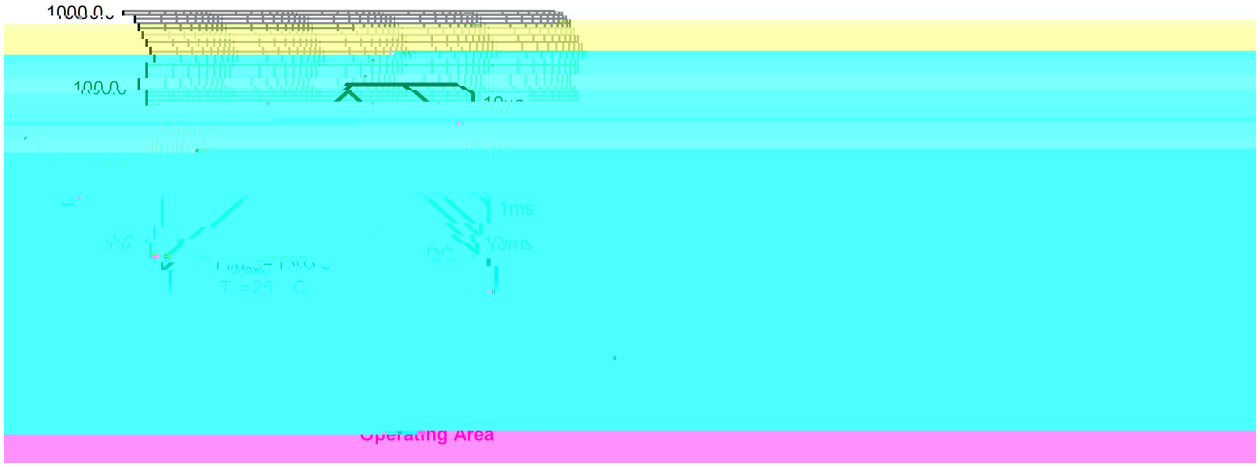


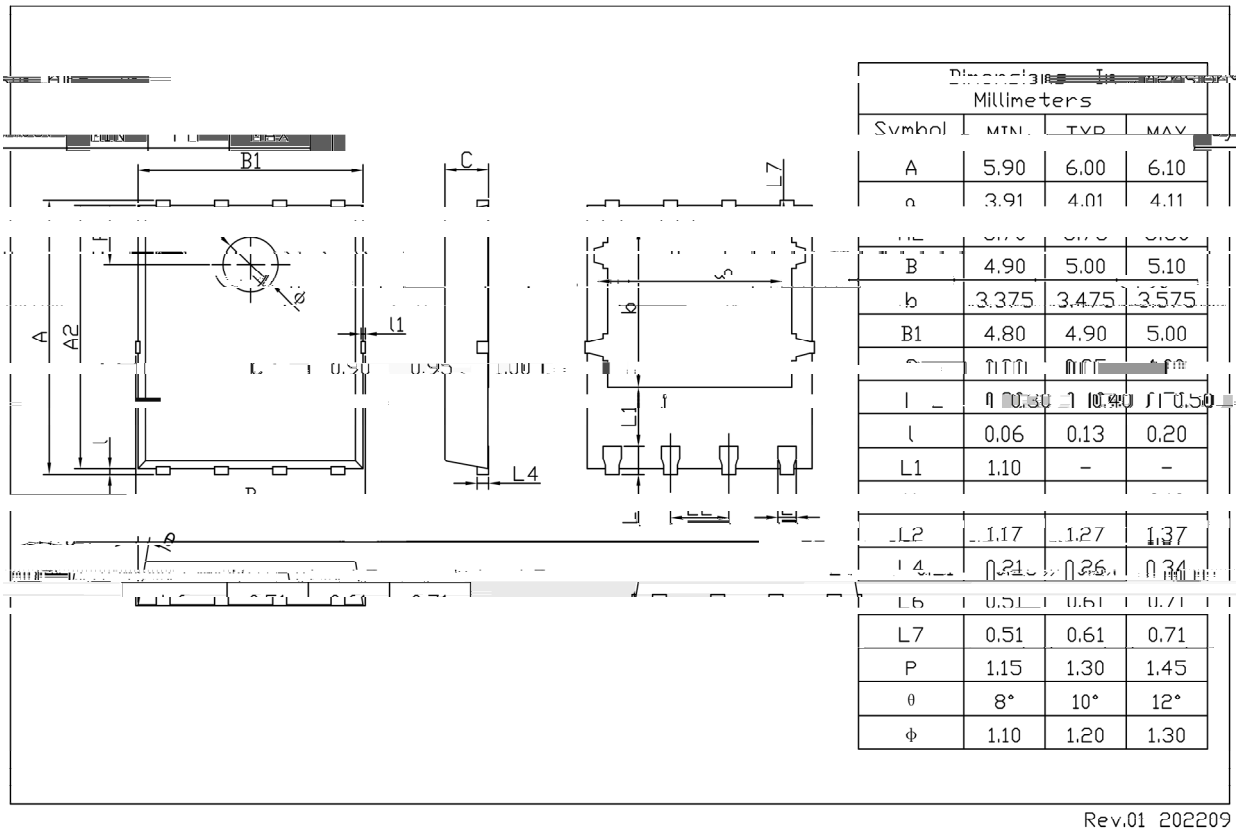
## Ô ? d • Ž ¢ / Electrical Characteristic Curve



## Ø ¤ = ) ¢ / Package Dimensions

PDFN5×6 Unit:mm




| Millimeters | | | |
|---|---|---|---|
| Symbol | MIN. | TYP. | MAX. |
| A | 5.90 | 6.00 | 6.10 |
| [illegible] | 3.91 | 4.01 | 4.11 |
| B | 4.90 | 5.00 | 5.10 |
| b | 3.375 | 3.475 | 3.575 |
| B1 | 4.80 | 4.90 | 5.00 |
| [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | 0.50 |
| l | 0.06 | 0.13 | 0.20 |
| L1 | 1.10 | – | – |
| [illegible] | | | |
| L2 | 1.17 | 1.27 | 1.37 |
| L4 | 0.21 | 0.26 | 0.34 |
| L6 | 0.51 | 0.61 | 0.71 |
| L7 | 0.51 | 0.61 | 0.71 |
| P | 1.15 | 1.30 | 1.45 |
| θ | 8° | 10° | 12° |
| Φ | 1.10 | 1.20 | 1.30 |

Rev.01 202209

## , M y ƒ / Marking Instructions

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Note y

| | |
|---|---|
| BR y | Company Code |
| Q: | Automobile halogen-free product Code |
| 120N06S y | Product Type Code |
| ****: | Lot No. Code, code change with Lot No |