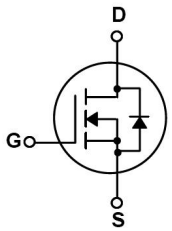
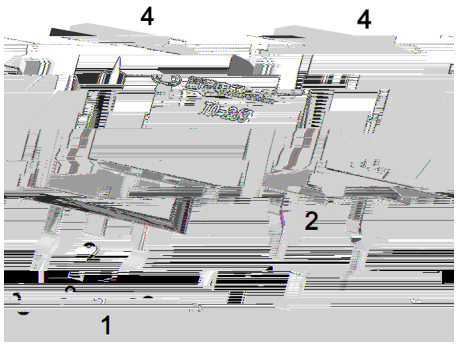
TO-263 N
N-CHANNEL MOSFET in a TO-263 Plastic Package.

H / DHF0T434
Ulwud Lrw Rq0Uhvlvwdqfh/idvw vwlwfklqj/ Txdllilhg wr DHF0T434 Vwdqgdugv iru Hljk Uhlldelllwy/ HI Surgxfw1

SIF

These devices are well suited for high efficient switched mode power supplies Active power factor correction, electronic lamp ballast based on half bridge topology, Meet the stringent requirements of automotive applications.




PIN1 G PIN 2 4 D PIN 3 S

## / Absolute Maximum Ratings(Ta=25 )

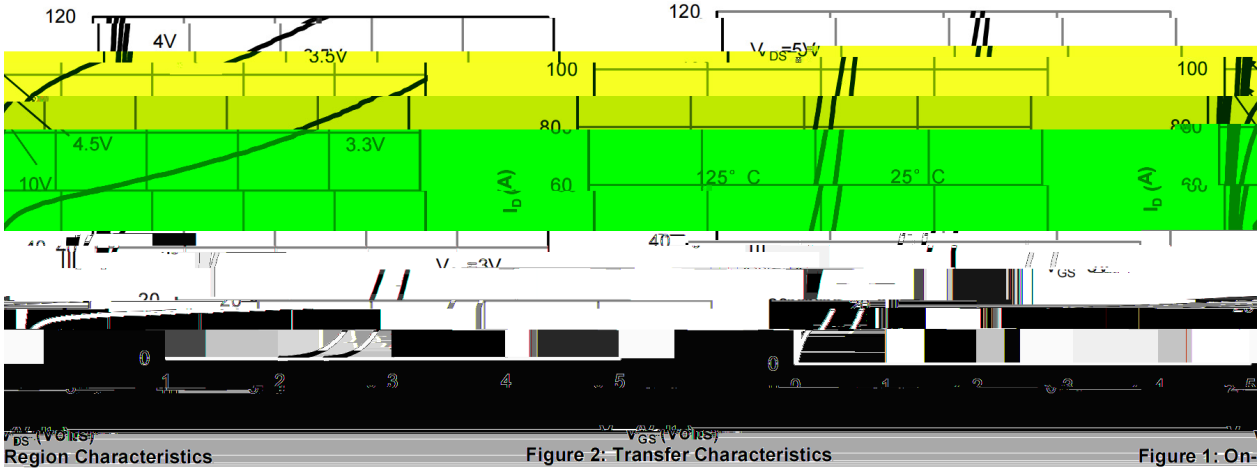
| Parameter | | N Symbol | Rating | Unit |
|---|---|---|---|---|
| Drain-Source Voltage | | $V_{DSS}$ | 40 | V |
| Drain Current | | $I_D$(Tc=25 ) | 196 | A |
| Pulsed Drain Current | | $I_{DM}$ | 500 | A |
| Gate-Source Voltage | | $V_{GS}$ | ±20 | V |
| Single Pulsed Avalanche Energy(L=0.5mH) | | $E_{AS}$ | 561.8 | mJ |
| Avalanche Current | | $I_{AS}$ | 26.5 | A |
| Total Power Dissipation | | $P_D$(Tc=25 ) | 347 | W |
| Junction and Storage Temperature Range | | $T_J$,$T_{STG}$ | -55 to 150 | |
| Thermal Resistance-Junction to Ambient | t ≤ 10s | $R_{\theta JA}$ | 15 | /W |
| | Steady-State | | 60 | |
| Thermal Resistance-Junction to Case | Steady-State | $R_{\theta JC}$ | 0.36 | |

## ) A

| Parameter | N Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Drain-Source Breakdown Voltage | $BV_{DSS}$ | $V_{GS}$=0V $I_D$=250 A | 40 | | | V |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$=40V $V_{GS}$=0V | | | 1 | A |
| Gate-Body Leakage Current Forward | $I_{GSS}$ | $V_{GS}$=±20V $V_{DS}$=0V | | | ±100 | nA |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}$=$V_{GS}$ $I_D$=250 A | 1 | 1.7 | 3 | V |
| Static Drain-Source On-Resistance | $R_{DS(on)}$ | $V_{GS}$=10V $I_D$=20A | | 4.5 | 5 | m |
| | | $V_{GS}$=4.5V $I_D$=10A | | 7 | 10 | |
| Forward On Voltage | $V_{SD}$ | $V_{GS}$=0V $I_S$=1A | | | 1.2 | V |
| Gate resistance | $R_g$ | f=1MHz | | 2.3 | | |
| Input Capacitance | $C_{iss}$ | $V_{DS}$=25V $V_{GS}$=0V f=1MHz | | 2950 | | pF |
| Output Capacitance | $C_{oss}$ | | | 210 | | |
| Reverse Transfer Capacitance | $C_{rss}$ | | | 190 | | |

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Total Gate Charge | $Q_g$(10V) | $V_{GS}$=10V $V_{DS}$=20V $I_D$=20A | | 70 | | nC |
| Total Gate Charge | $Q_g$(4.5V) | | | 15 | | |
| Gate Source Charge | $Q_{gs}$ | | | 15 | | |
| Gate Drain Charge | $Q_{gd}$ | | | 22 | | |
| Turn-On Delay Time | $t_{d(on)}$ | $V_{GS}$=10V $V_{DS}$=20V $R_L$=1 $R_{GEN}$=3 | | 15 | | ns |
| Turn-On Rise Time | $t_r$ | | | 30 | | |
| Turn-Off Delay Time | $t_{d(off)}$ | | | 54 | | |
| Turn-Off Fall Time | $t_f$ | | | 20 | | |

## / Electrical Characteristic Curve




Region Characteristics




Figure 2: Transfer Characteristics

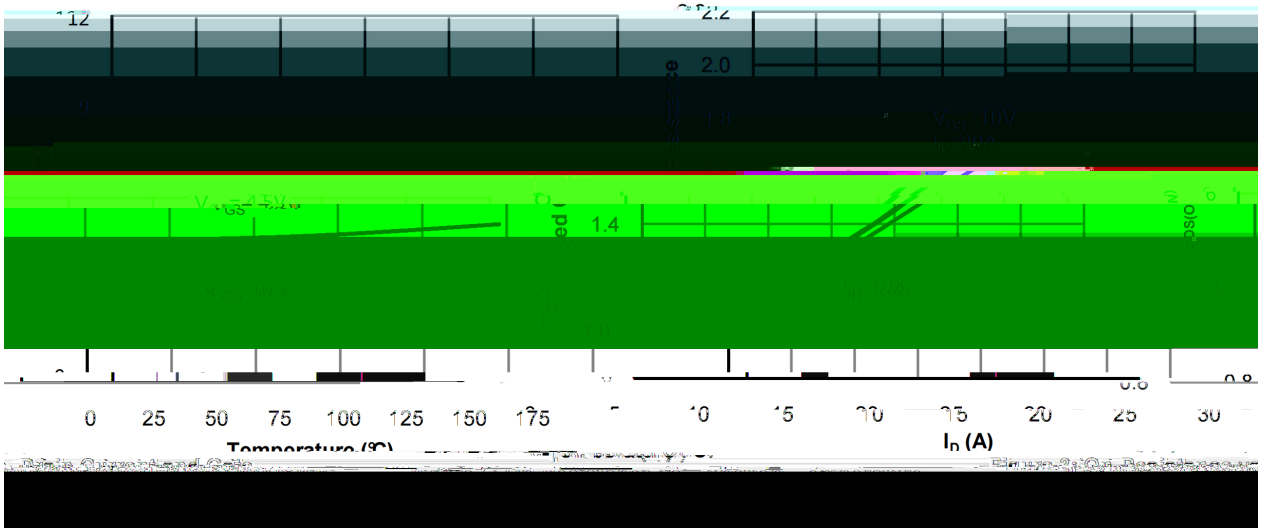
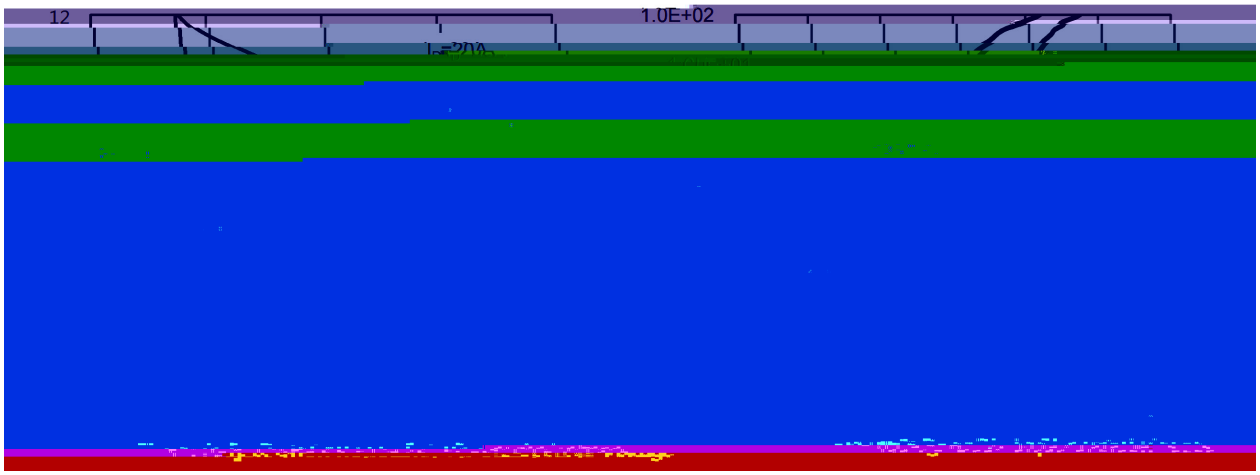
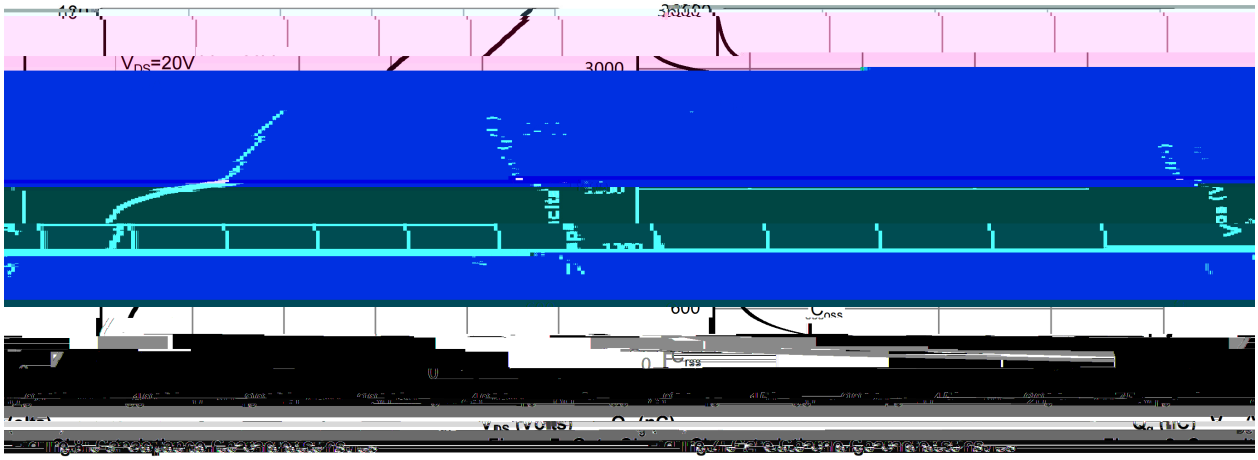
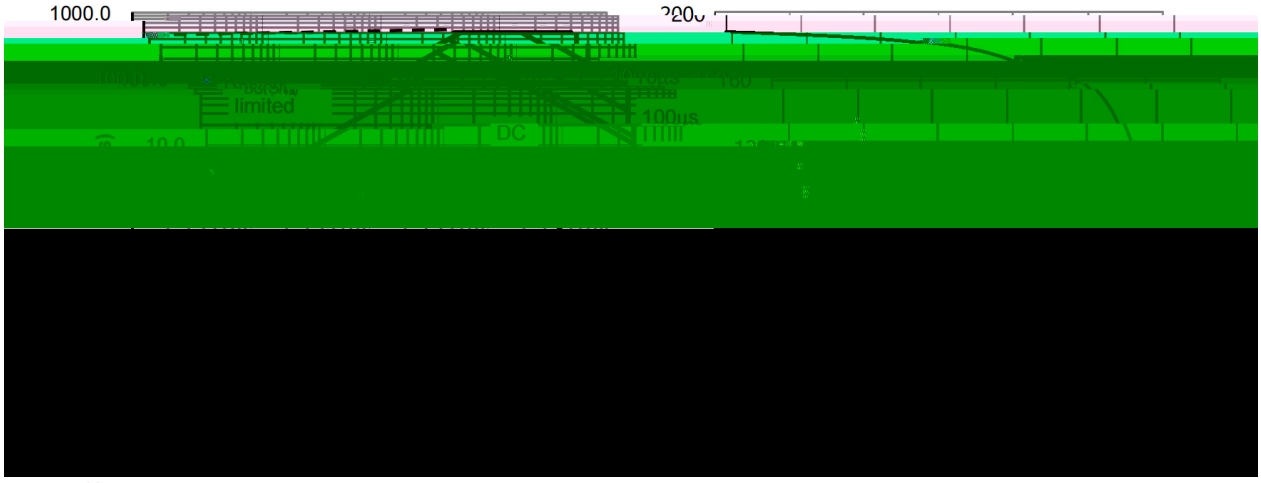


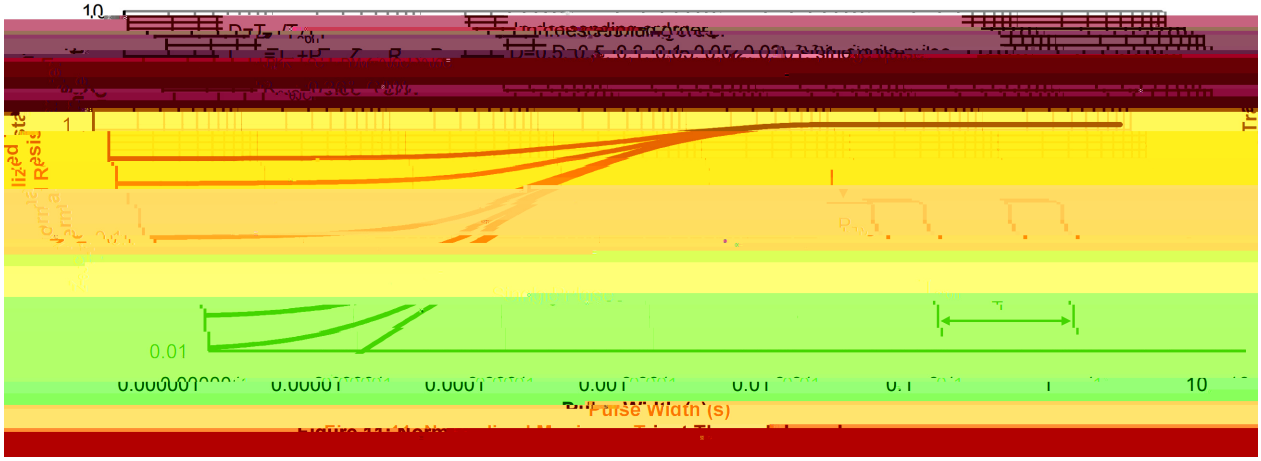

Figure 1: On-



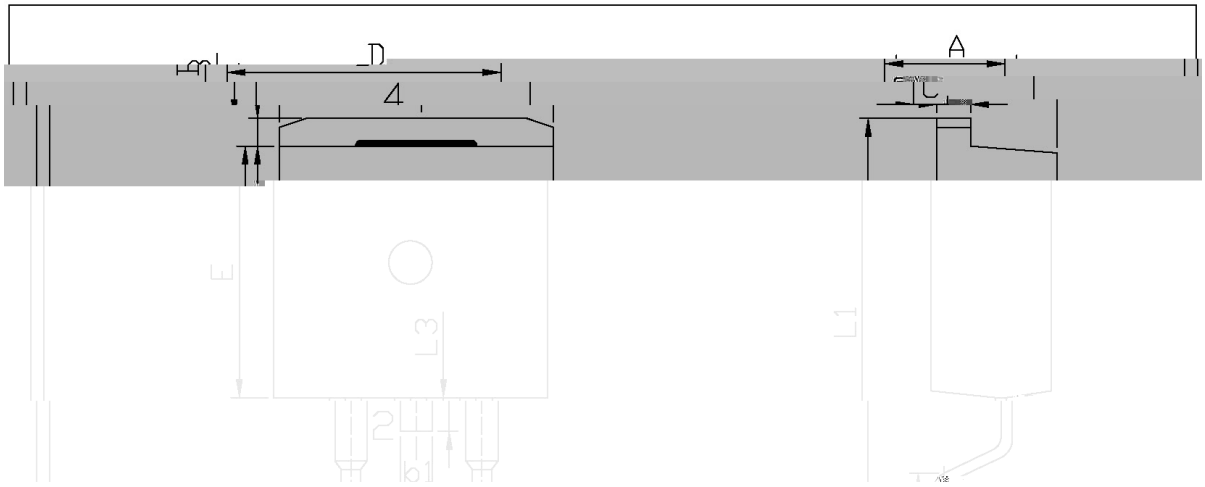
## / Electrical Characteristic Curve



## / Package Dimensions

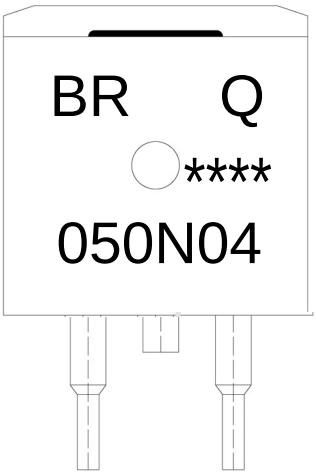



| | Min | Max | | Min |
|---|---|---|---|---|
| A | 4.30 | 4.70 | E | 9.00 |
| B | 1.00 | 1.40 | e1 | 2.34 |
| b1 | 1.15 | 1.35 | L1 | |
| C | 1.20 | 1.40 | L3 | |

| Max | |
|---|---|
| 9.40 | |
| 2.74 | |
| 5.00 | 16.00 |
| 2.41 | 2.84 |
| 1.20 | 1.60 |

TO-263

## / Marking Instructions




| | | | |
|---|---|---|---|
| EU | 环 | И | |
| Q | 环 | | |
| 383Q37 | 环 | N | |
| **** | 环 | N | N |

Note:

| | |
|---|---|
| BR: | Company Code |
| Q: | Automobile halogen-free product Code |
| 050N04: | Product Type |
| ****: | Lot No. Code, code change with Lot No |