| | | | |
|---|---|---|---|
| $R_{DS(on),typ}$ | $V_{GS}$=4.5V | 44 | mΩ |
| $I_{D\ (Sillicon\ Limited)}$ | | -26 | A |

| Part Number | Package | Marking |
|---|---|---|
| HTD410P06 | TO-252 | TD410P06 |

## Absolute Maximum Ratings at $T_j$

| Parameter | Symbol | Conditions | Value | Unit |
|---|---|---|---|---|
| Continuous Drain Current (Silicon Limited) | $I_D$ | $T_C$ | -26 | A |
| | | $T_C$ | -18 | |
| | | - | -60 | V |
| | | | ±20 | V |
| | | - | -60 | A |
| | | L=0.1mH, $T_C$ | 20 | mJ |
| | | | 60 | W |
| | | | -55 to175 | |

## Absolute Maximum Ratings

| | Unit |
|---|---|

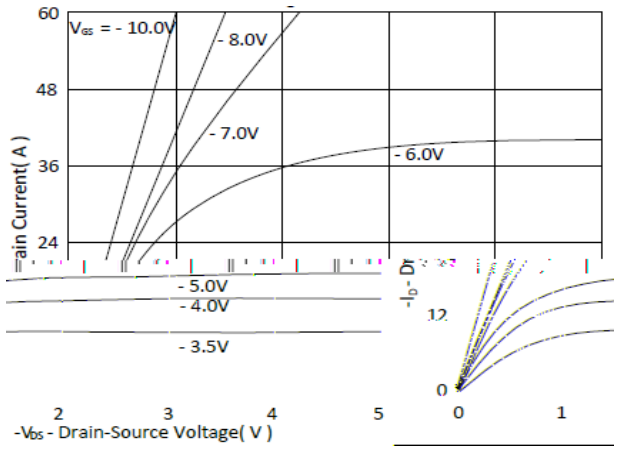
Apr. 2018

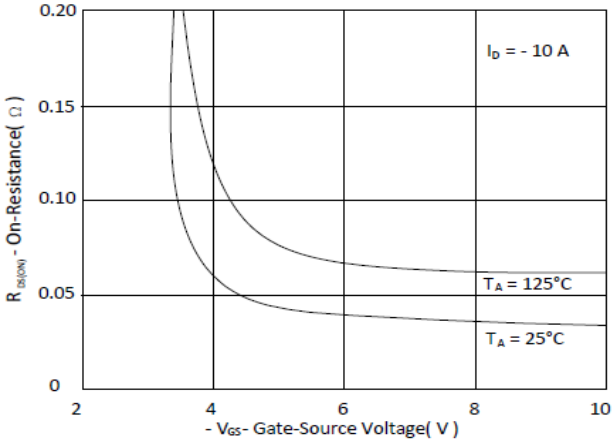
j

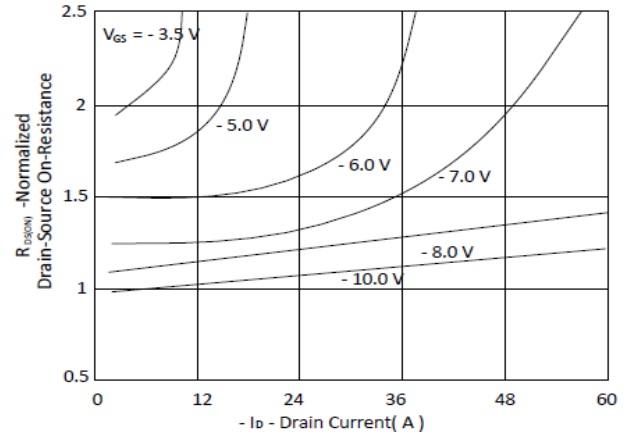
| Parameter | Symbol | Conditions | Value min | Value typ | Value max | Unit |
|---|---|---|---|---|---|---|
| | $V_{(BR)DSS}$ | $V_{GS}$=0V, $I_D$=-250μA | | | | |
| | V | $V_{GS}$=$V_{DS}$, $I_D$=-250μA | | | | |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{GS}$=0V, $V_{DS}$=-48V, $T_j$ | | | | |
| | | $V_{GS}$=0V, $V_{DS}$=-40V, $T_j$ | | | | |
| Gate to Source Leakage Current | $I_{GSS}$ | $V_{GS}$=±20V, $V_{DS}$=0V | | | | |
| Drain to Source on Resistance | $R_{DS(on)}$ | $V_{GS}$=-10V, $I_D$=-20A | | | | |
| | | $V_{GS}$=-4.5V, $I_D$=-10A | | | | |
| Transconductance | g | $V_{DS}$=-5V, $I_D$=-20A | | | | |
| Gate Resistance | $R_G$ | $V_{GS}$=15mV, $V_{DS}$ | | | | |
| Input Capacitance | $C_{iss}$ | | | | | |
| Output Capacitance | $C_{oss}$ | $V_{GS}$=0V, $V_{DS}$ | | | | |
| | $C_{rss}$ | | | | | |
| | $Q_g$(10V) | | | | | |
| | $Q_{gs}$ | $V_{DD}$=-30V, $I_D$=-20A, $V_{GS}$=-10V | | | | |
| | $Q_{gd}$ | | | | | |
| Turn on Delay Time | $t_{d(on)}$ | | | | | |
| Rise time | $t_r$ | $V_{DD}$=-10V, $I_D$=-1A, $V_{GS}$=-10V, | | | | |
| | t | $R_G$=6Ω, | | - | 40 | - |
| | t | | | - | 20 | - |

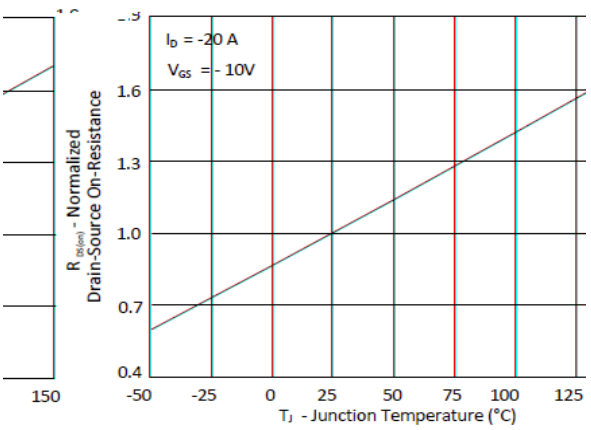
ns

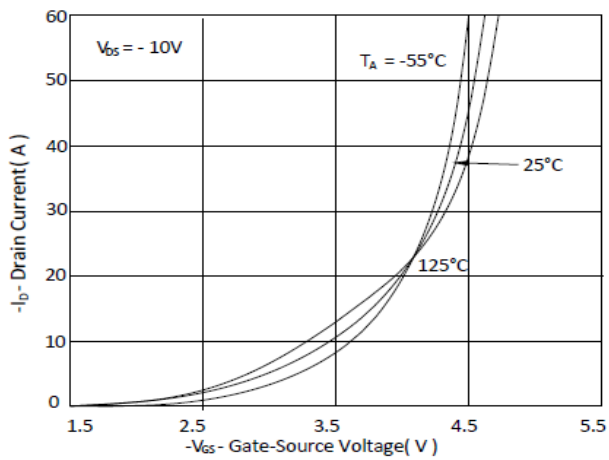
| | | | | | | |
|---|---|---|---|---|---|---|
| | $V_{SD}$ | | | - | | 1.3 V |
| Reverse Recovery Time | $t_{rr}$ | | μs | - | 40 | - ns |
| | Q | | | - | 60 | - nC |

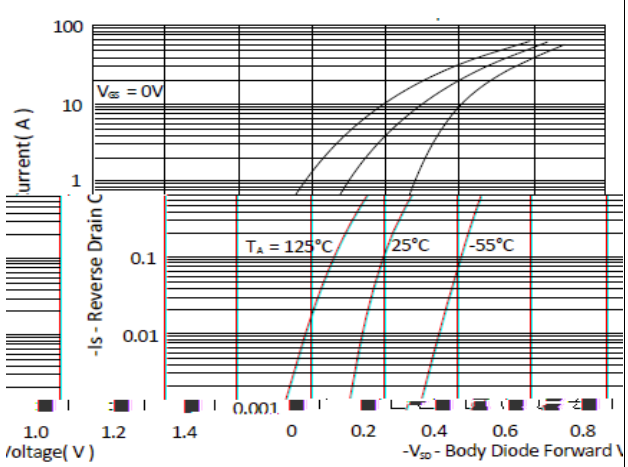

$V_{GS}$ = - 10.0V
- 8.0V
- 7.0V
- 6.0V
- 5.0V
- 4.0V
- 3.5V
ain Current( A )
-$V_{DS}$ - Drain-Source Voltage( V )


$I_D$ = - 10 A
$T_A$ = 125°C
$T_A$ = 25°C
$R_{DS(ON)}$ - On-Resistance( Ω )
- $V_{GS}$- Gate-Source Voltage( V )


$V_{GS}$ = - 3.5 V
- 5.0 V
- 6.0 V
- 7.0 V
- 8.0 V
- 10.0 V
$R_{DS(ON)}$ -Normalized
Drain-Source On-Resistance
- $I_D$ - Drain Current( A )


$I_D$ = -20 A
$V_{GS}$ = - 10V
$R_{DS(on)}$ - Normalized
Drain-Source On-Resistance
$T_J$ - Junction Temperature (°C)


$V_{DS}$ = - 10V
$T_A$ = -55°C
25°C
125°C
-$I_D$- Drain Current( A )
-$V_{GS}$ - Gate-Source Voltage( V )


$V_{GS}$ = 0V
$T_A$ = 125°C
25°C
-55°C
-Is - Reverse Drain C
urrent( A )
oltage( V )
-$V_{SD}$ - Body Diode Forward V

| | |
|---|---|
| | |

| | |
|---|---|
| | |

| |
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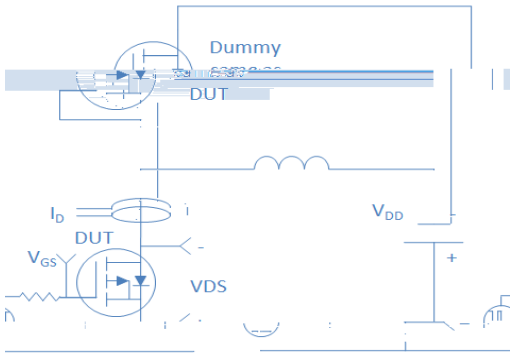
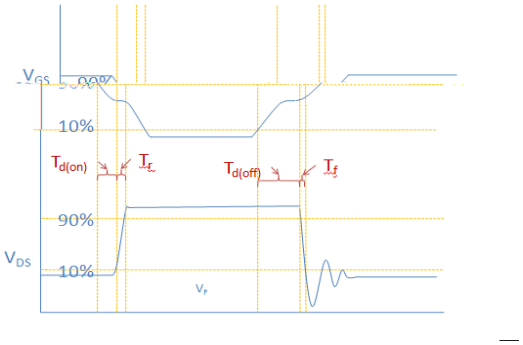
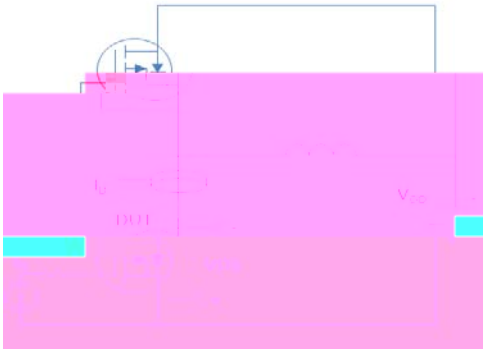
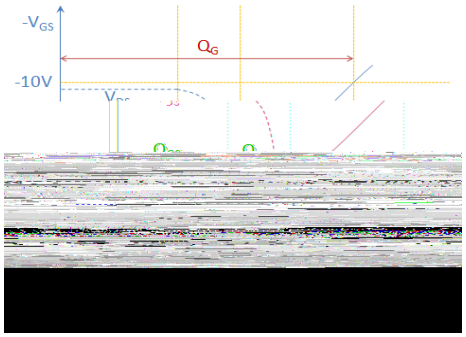
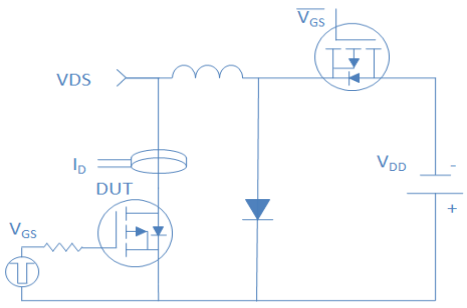
| |

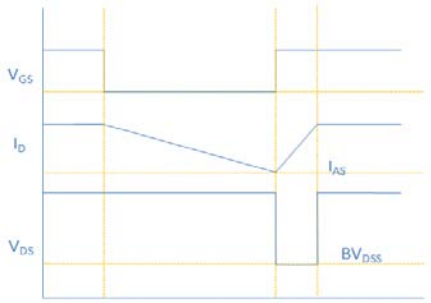


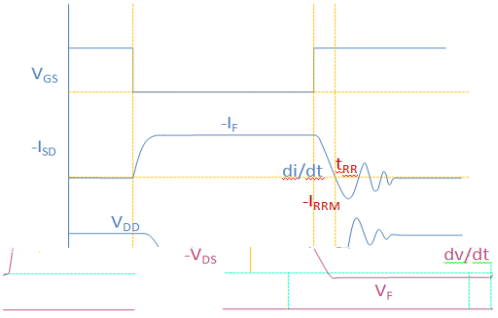



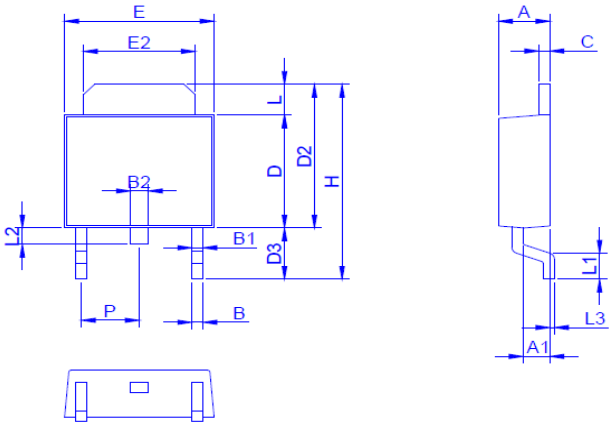




Diode Recovery Test



Package Outline

## TO-252, 3leads




| Dimension | A | A1 | B | B1 | B2 | C | D | D2 | D3 | E | E2 | H | L | L1 | L2 | L3 | P |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Min. | 2.10 | 0.95 | 0.30 | 0.40 | 0.60 | 0.40 | 5.30 | 6.70 | 2.20 | 6.40 | 4.80 | 9.20 | 0.89 | 0.90 | 0.50 | 0.00 | 2.10 |
| Max. | 2.50 | 1.30 | 0.85 | 0.94 | 1.00 | 0.60 | 6.20 | 7.30 | 3.00 | 6.70 | 5.45 | 10.15 | 1.70 | 1.65 | 1.10 | 0.30 | 2.50 |