

Absolute maximum ratings

($T_a=25^\circ\text{C}$)

| Symbol | Ratings | Unit |
|---------------------|--|--------------------|
| V_{DSS} | 100 | V |
| V_{GSS} | ± 20 | V |
| I_D | ± 5 | A |
| $I_D(\text{pulse})$ | ± 10 ($PW \leq 1\text{ms}$, $D_u \leq 1\%$) | A |
| E_{AS}^* | 70 | mJ |
| P_T | 5 ($T_a=25^\circ\text{C}$, with all circuits operating, without heatsink) | W |
| | 35 ($T_c=25^\circ\text{C}$, with all circuits operating, with infinite heatsink) | W |
| θ_{j-a} | 25 (Junction-Air, $T_a=25^\circ\text{C}$, with all circuits operating) | $^\circ\text{C/W}$ |
| θ_{j-c} | 3.57 (Junction-Case, $T_c=25^\circ\text{C}$, with all circuits operating) | $^\circ\text{C/W}$ |
| V_{ISO} | 1000 (Between fin and lead pin, AC) | V _{rms} |
| T_{ch} | 150 | $^\circ\text{C}$ |
| T_{stg} | -40 to +150 | $^\circ\text{C}$ |

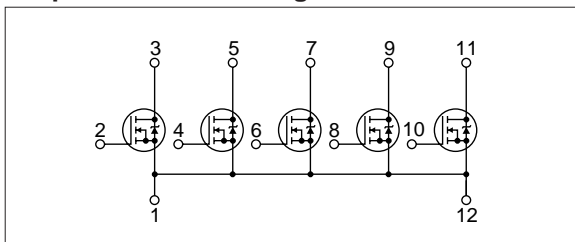
* : $V_{DD}=25\text{V}$, $L=4.2\text{mH}$, $I_D=5\text{A}$, unclamped, $R_G=50\Omega$, see Fig. E on page 15.

Electrical characteristics

($T_a=25^\circ\text{C}$)

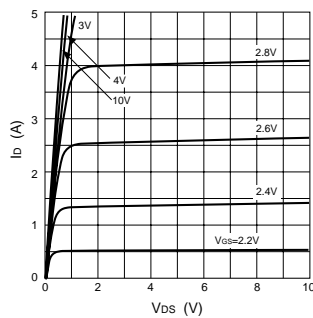
| Symbol | Specification | | | Unit | Conditions |
|---------------|---------------|-----|-----------|------------------|---|
| | min | typ | max | | |
| $V_{(BR)DSS}$ | 100 | | | V | $I_D=100\mu\text{A}$, $V_{GS}=0\text{V}$ |
| I_{GSS} | | | ± 100 | nA | $V_{GS}=\pm 20\text{V}$ |
| I_{DSS} | | | 100 | μA | $V_{DS}=100\text{V}$, $V_{GS}=0\text{V}$ |
| V_{TH} | 1.0 | | 2.0 | V | $V_{DS}=10\text{V}$, $I_D=250\mu\text{A}$ |
| $R_{e(yfs)}$ | 4 | 6 | | S | $V_{DS}=10\text{V}$, $I_D=2.5\text{A}$ |
| $R_{DS(ON)}$ | | 130 | 185 | $\text{m}\Omega$ | $V_{GS}=10\text{V}$, $I_D=2.5\text{A}$ |
| | | 155 | 230 | $\text{m}\Omega$ | $V_{GS}=4\text{V}$, $I_D=2.5\text{A}$ |
| C_{iss} | | 740 | | pF | $V_{DS}=10\text{V}$, $f=1.0\text{MHz}$, $V_{GS}=0\text{V}$ |
| C_{oss} | | 240 | | pF | $V_{GS}=0\text{V}$ |
| $t_{d(on)}$ | | 20 | | ns | $I_D=2.5\text{A}$, $V_{DD}=50\text{V}$, $R_L=20\Omega$, $V_{GS}=5\text{V}$, see Fig. 3 on page 16. |
| t_r | | 30 | | ns | |
| $t_{d(off)}$ | | 60 | | ns | |
| t_f | | 20 | | ns | |
| V_{SD} | | 1.0 | 1.4 | V | $I_{SD}=5\text{A}$, $V_{GS}=0\text{V}$ |
| t_{rr} | | 180 | | ns | $I_{SD}=\pm 100\text{mA}$ |

Equivalent circuit diagram

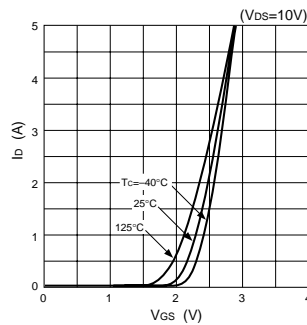


Characteristic curves

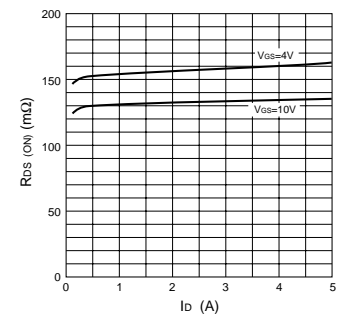
I_D - V_{DS} Characteristics (Typical)



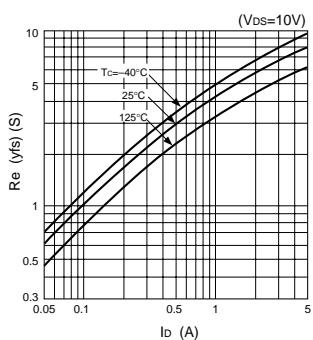
I_D - V_{GS} Characteristics (Typical)



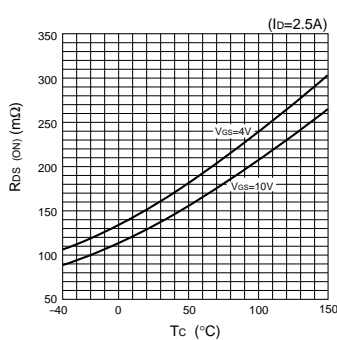
$R_{DS(ON)}$ - I_D Characteristics (Typical)



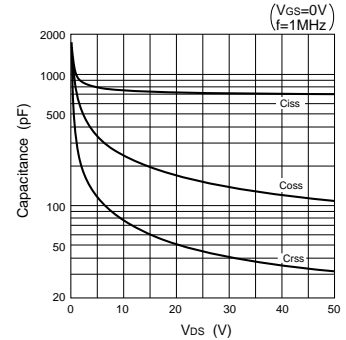
$R_{e(yfs)}$ - I_D Characteristics (Typical)



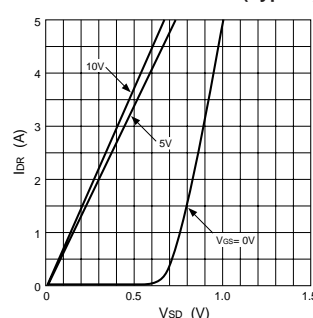
$R_{DS(ON)}$ - T_C Characteristics (Typical)



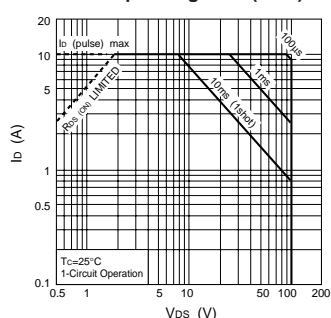
Capacitance- V_{DS} Characteristics (Typical)



I_{DR} - V_{SD} Characteristics (Typical)



Safe Operating Area (SOA)



P_T - T_a Characteristics

