

### Absolute Maximum Ratings (Ta = 25°C)

| Symbol        | Ratings                                       | Unit             |
|---------------|-----------------------------------------------|------------------|
| $V_{DS}$      | 60                                            | V                |
| $V_{GS}$      | $\pm 20$                                      | V                |
| $I_D$         | $\pm 30$                                      | A                |
| $I_D$ (pulse) | $\pm 120$ ( $T_{ch} \leq 150^\circ\text{C}$ ) | A                |
| $P_D$         | 40 ( $T_c = 25^\circ\text{C}$ )               | W                |
| $E_{AS}^*$    | 38                                            | mJ               |
| $T_{ch}$      | 150                                           | $^\circ\text{C}$ |
| $T_{stg}$     | -55 to +150                                   | $^\circ\text{C}$ |

\*:  $V_{DD} = 25\text{V}$ ,  $L = 50\mu\text{H}$ ,  $I_L = 30\text{A}$ , unclamped,  
See Figure 1 on Page 5.

### Electrical Characteristics (Ta = 25°C)

| Symbol         | Ratings |       |           | Unit          | Conditions                                                                                         |
|----------------|---------|-------|-----------|---------------|----------------------------------------------------------------------------------------------------|
|                | min     | typ   | max       |               |                                                                                                    |
| $V_{(BR) DSS}$ | 60      |       |           | V             | $I_D = 250\mu\text{A}$ , $V_{GS} = 0\text{V}$                                                      |
| $I_{GSS}$      |         |       | $\pm 500$ | nA            | $V_{GS} = \pm 20\text{V}$                                                                          |
| $I_{DSS}$      |         |       | 250       | $\mu\text{A}$ | $V_{DS} = 60\text{V}$ , $V_{GS} = 0\text{V}$                                                       |
| $V_{TH}$       | 2.0     |       | 4.0       | V             | $V_{DS} = 10\text{V}$ , $I_D = 250\mu\text{A}$                                                     |
| $R_e$ (yfs)    | 13      | 20    |           | S             | $V_{DS} = 10\text{V}$ , $I_D = 15\text{A}$                                                         |
| $R_{DS(on)}$   |         | 0.021 | 0.028     | $\Omega$      | $V_{GS} = 10\text{V}$ , $I_D = 15\text{A}$                                                         |
| $C_{iss}$      |         | 2500  |           | pF            | $V_{DS} = 25\text{V}$ , $f = 1.0\text{MHz}$ ,<br>$V_{GS} = 0\text{V}$                              |
| $C_{oss}$      |         | 1200  |           | pF            |                                                                                                    |
| $t_{on}$       |         | 180   |           | ns            | $I_D = 15\text{A}$ , $V_{DD} = 30\text{V}$ ,<br>$V_{GS} = 10\text{V}$ ,<br>See Figure 2 on Page 5. |
| $t_{off}$      |         | 120   |           | ns            |                                                                                                    |

