

Absolute maximum ratings

(Ta=25°C)

Symbol	Ratings	Unit
V_{DS}	150	V
V_{GS}	± 20	V
I_D	± 10	A
$I_D(\text{pulse})$	± 40 (PW $\leq 1\text{ms}$, Du $\leq 1\%$)	A
E_{AS}^*	160	mJ
P_T	5 (Ta=25°C, with all circuits operating, without heatsink)	W
	40 (Tc=25°C, with all circuits operating, with infinite heatsink)	W
θ_{j-a}	25 (Junction-Air, Ta=25°C, with all circuits operating)	°C/W
θ_{j-c}	3.13 (Junction-Case, Tc=25°C, with all circuits operating)	°C/W
V_{ISO}	1000 (Between fin and lead pin, AC)	Vrms
T_{ch}	150	°C
T_{stg}	-40 to +150	°C

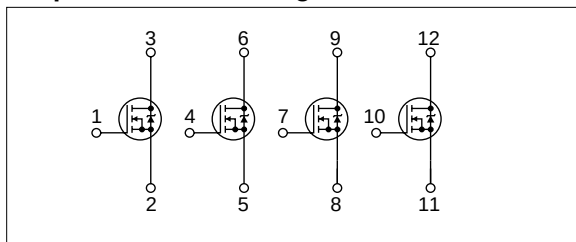
* : $V_{DD}=25\text{V}$, $L=2.7\text{mH}$, $I_D=10\text{A}$, unclamped, $R_G=50\Omega$, see Fig. E on page 15.

Electrical characteristics

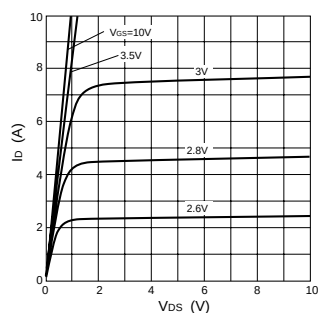
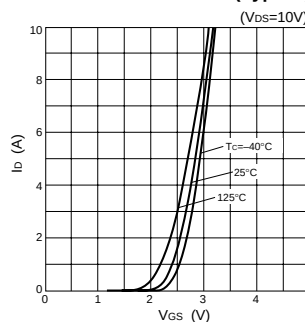
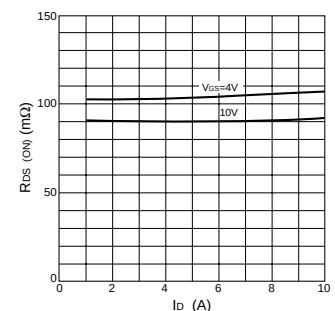
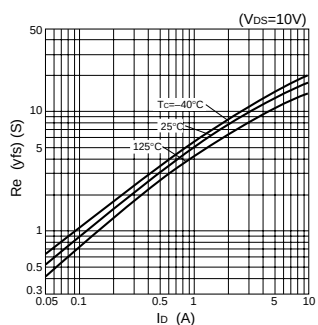
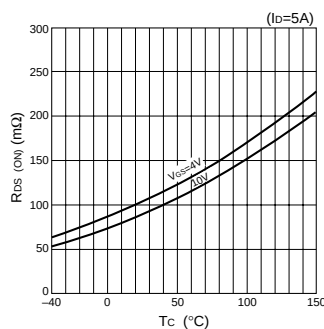
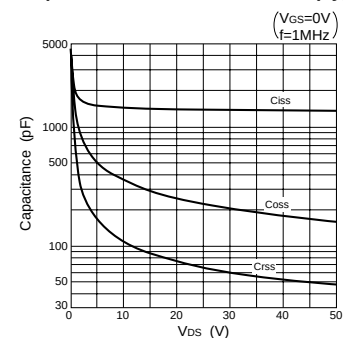
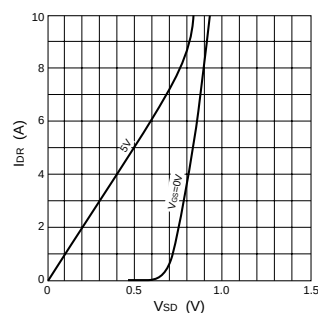
(Ta=25°C)

Symbol	Specification			Unit	Conditions
	min	typ	max		
$V_{(BR)DS}$	150			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	$V_{DS}=150\text{V}$, $V_{GS}=0\text{V}$
V_{TH}	1.0		2.0	V	$V_{DS}=10\text{V}$, $I_D=250\mu\text{A}$
$R_{e(yfs)}$	8	13.5		S	$V_{DS}=10\text{V}$, $I_D=5\text{A}$
$R_{DS(ON)}$		90	115	m Ω	$V_{GS}=10\text{V}$, $I_D=5\text{A}$
		105	130	m Ω	$V_{GS}=4\text{V}$, $I_D=5\text{A}$
C_{iss}		1500		pF	$V_{DS}=10\text{V}$, $f=1.0\text{MHz}$, $V_{GS}=0\text{V}$
C_{oss}		360		pF	
$t_{d(on)}$		30		ns	$I_D=5\text{A}$, $V_{DD}\div 70\text{V}$, $R_L=14\Omega$, $V_{GS}=5\text{V}$, see Fig. 3 on page 16.
t_r		35		ns	
$t_{d(off)}$		100		ns	
t_f		40		ns	
V_{SD}		1.0	1.5	V	$I_{SD}=10\text{A}$, $V_{GS}=0\text{V}$
t_{rr}		420		ns	$I_{SD}=\pm 100\text{mA}$

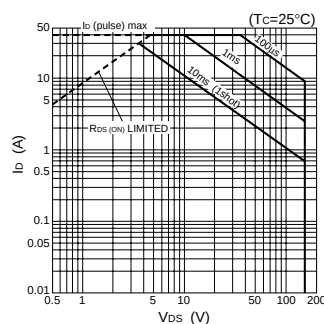
Equivalent circuit diagram



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)

Pr- T_a Characteristics