

Absolute maximum ratings

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

Symbol	Ratings	Unit
V_{DSS}	100	V
V_{GSS}	± 20	V
I_D	± 10	A
$I_D(\text{pulse})$	± 40 ($PW \leq 1\text{ms}$)	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)	$^\circ\text{C}/\text{W}$
θ_{j-c}	3.57 (Junction-Case, $T_c=25^\circ\text{C}$, with all circuits operating)	$^\circ\text{C}/\text{W}$
V_{ISO}	1000 (Between fin and lead pin, AC)	Vrms
T_{ch}	150	$^\circ\text{C}$
T_{stg}	-40 to +150	$^\circ\text{C}$

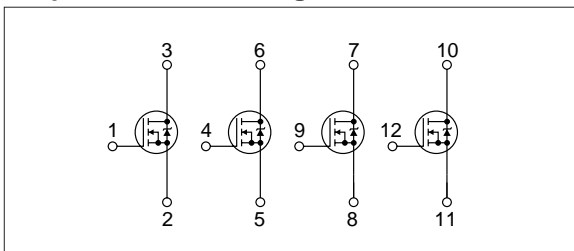
* : $V_{DD}=25\text{V}$, $L=4.2\text{mH}$, $I_D=5\text{A}$, unclamped, $R_G=50\Omega$, see Fig. E on page 15.

Electrical characteristics

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

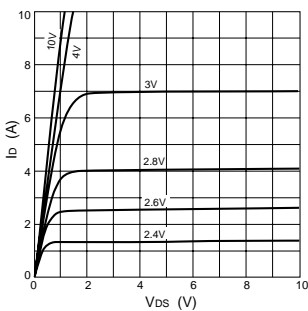
Symbol	Specification			Unit	Conditions
	min	typ	max		
$V_{(BR)DSS}$	100			V	$I_D=100\mu\text{A}$, $V_{GS}=0\text{V}$
I_{GSS}			± 100	nA	$V_{GS}=\pm 20\text{V}$
I_{DSS}			100	μA	$V_{DS}=100\text{V}$, $V_{GS}=0\text{V}$
V_{TH}	1.0		2.0	V	$V_{DS}=10\text{V}$, $I_D=250\mu\text{A}$
$R_{e(yfs)}$	7	10		S	$V_{DS}=10\text{V}$, $I_D=5\text{A}$
$R_{DS(ON)}$		110	175	$\text{m}\Omega$	$V_{GS}=10\text{V}$, $I_D=5\text{A}$
		140	220	$\text{m}\Omega$	$V_{GS}=4\text{V}$, $I_D=5\text{A}$
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	$I_D=5\text{A}$, $V_{BD} \approx 50\text{V}$, $R_L=10\Omega$, $V_{GS}=5\text{V}$, see Fig. 3 on page 16.
t_r		45		ns	
$t_{d(off)}$		60		ns	
t_f		20		ns	
V_{SD}		1.0	1.4	V	$I_{SD}=10\text{A}$, $V_{GS}=0\text{V}$
t_{rr}		180		ns	$I_{SD}=\pm 100\text{mA}$

Equivalent circuit diagram

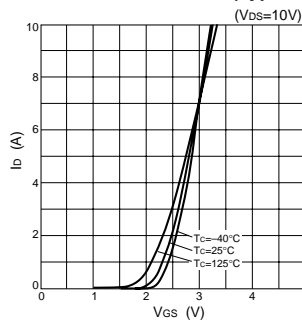


Characteristic curves

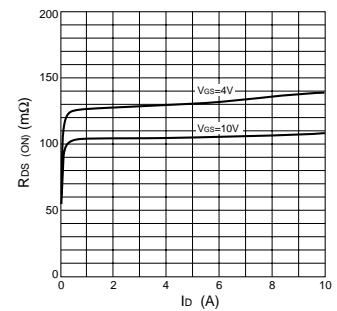
I_D - V_{DS} Characteristics (Typical)



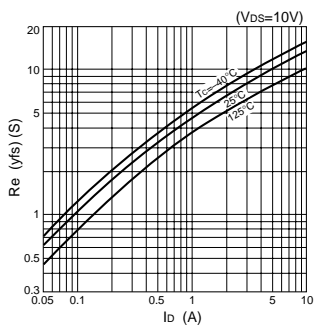
I_D - V_{GS} Characteristics (Typical)



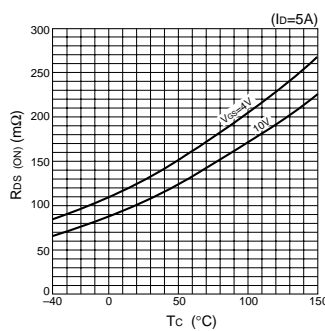
$R_{DS(ON)}$ - I_D Characteristics (Typical)



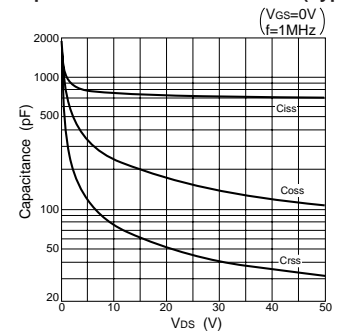
$R_{e(yfs)}$ - I_D Characteristics (Typical)



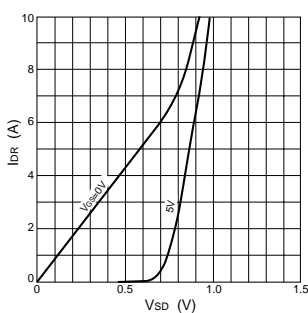
$R_{DS(ON)}$ - T_c Characteristics (Typical)



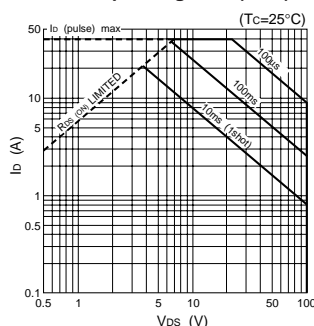
Capacitance- V_{DS} Characteristics (Typical)



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



Safe Operating Area (SOA)



P_T - T_a Characteristics

