

Absolute maximum ratings

(Ta=25°C)

Symbol	Ratings	Unit
V _{DSS}	100	V
V _{GSS}	±20	V
I _D	±5	A
I _D (pulse)	±10 (PW≤1ms, Du≤1%)	A
E _{AS} *	70	mJ
P _T	5 (Ta=25°C, with all circuits operating, without heatsink)	W
	35 (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}	3.57 (Junction-Case, Tc=25°C, with all circuits operating)	°C/W
V _{ISO}	1000 (Between fin and lead pin, AC)	V _{rms}
T _{ch}	150	°C
T _{stg}	-40 to +150	°C

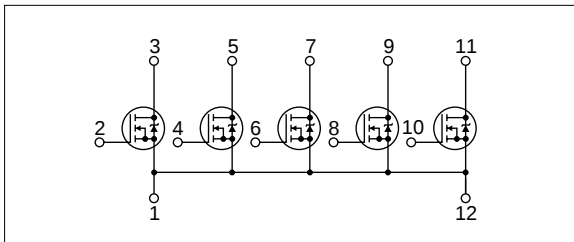
* : V_{DD}=25V, L=4.2mH, I_D=5A, unclamped, R_C=50Ω, see Fig. E on page 15.

Electrical characteristics

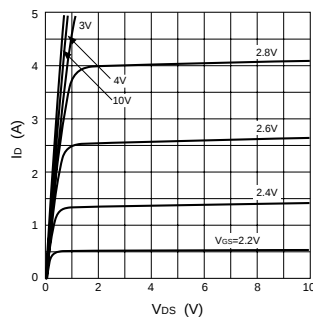
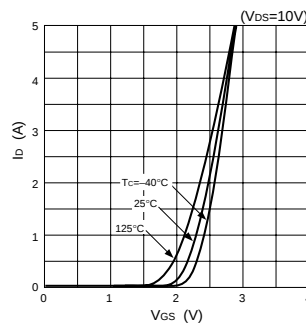
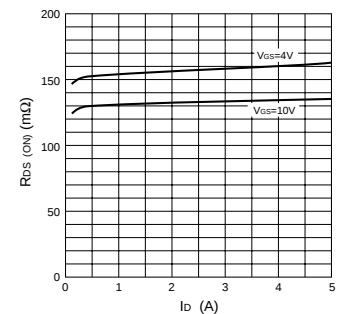
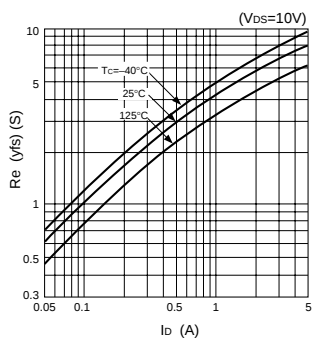
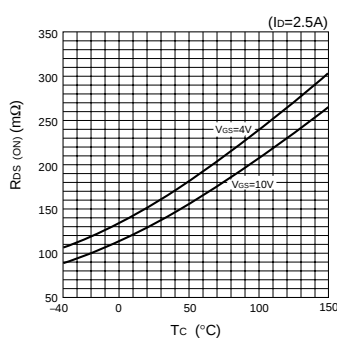
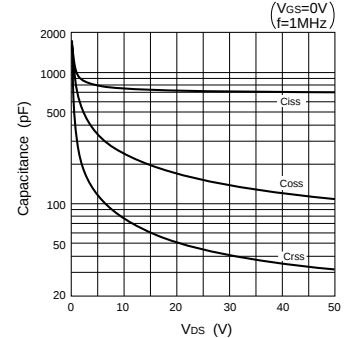
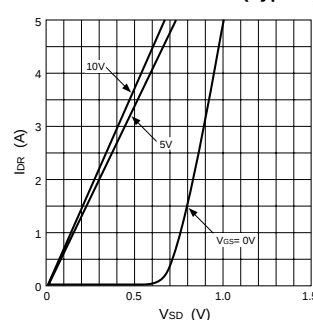
(Ta=25°C)

Symbol	Specification			Unit	Conditions
	min	typ	max		
V _{(BR)DSS}	100			V	I _D =100μA, V _{GS} =0V
I _{GSS}			±100	nA	V _{GS} =±20V
I _{DSS}			100	μA	V _{DS} =100V, V _{GS} =0V
V _{TH}	1.0		2.0	V	V _{DS} =10V, I _D =250μA
Re(yfs)	4	6		S	V _{DS} =10V, I _D =2.5A
R _{DS(ON)}		130	185	mΩ	V _{GS} =10V, I _D =2.5A
		155	230	mΩ	V _{GS} =4V, I _D =2.5A
C _{iss}		740		pF	V _{DS} =10V, f=1.0MHz, V _{GS} =0V
C _{oss}		240		pF	V _{DS} =10V, f=1.0MHz, V _{GS} =0V
td(on)		20		ns	I _D =2.5A, V _{DD} =50V, R _L =20Ω, V _{GS} =5V, see Fig. 3 on page 16.
tr		30		ns	
td(off)		60		ns	
tf		20		ns	
V _{SD}		1.0	1.4	V	I _{SD} =5A, V _{GS} =0V
t _{rr}		180		ns	I _{SD} =±100mA

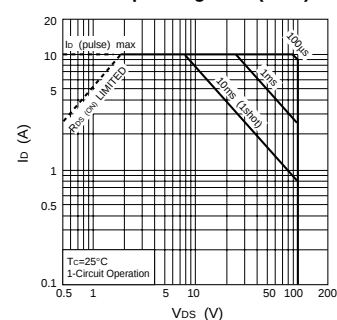
Equivalent circuit diagram



Characteristic curves

I_D-V_{DS} Characteristics (Typical)I_D-V_{GS} Characteristics (Typical)R_{DS(ON)}-I_D Characteristics (Typical)Re(yfs)-I_D Characteristics (Typical)R_{DS(ON)}-T_C Characteristics (Typical)Capacitance-V_{DS} Characteristics (Typical)I_{DSR}-V_{SD} Characteristics (Typical)

Safe Operating Area (SOA)

P_T-T_a Characteristics