

Absolute maximum ratings

(Ta=25°C)

Symbol	Ratings	Unit
V _{DSS}	60	V
V _{GSS}	±20	V
I _D	±3	A
I _D (pulse)	±6 (PW≤1ms, Du≤1%)	A
E _{AS} *	6.8	mJ
I _{AS}	3	A
P _T	4 (Ta=25°C, with all circuits operating, without heatsink)	W
	28 (Tc=25°C, with all circuits operating, with infinite heatsink)	W
θ _{j-a}	31.2 (Junction-Air, Ta=25°C, with all circuits operating)	°C/W
θ _{j-c}	4.46 (Junction-Case, Tc=25°C, with all circuits operating)	°C/W
T _{ch}	150	°C
T _{stg}	-40 to +150	°C

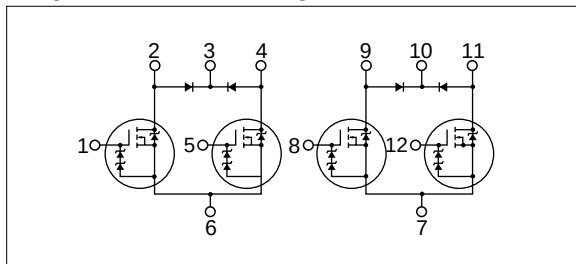
* : V_{DD}=20V, L=1mH, I_L=3A, unclamped, see Fig. E on page 15.

Electrical characteristics

(Ta=25°C)

Symbol	Specification			Unit	Conditions
	min	typ	max		
V _{(BR)DSS}	60			V	I _D =100μA, V _{GS} =0V
I _{GSS}			±10	μA	V _{GS} =±20V
I _{DSS}			100	μA	V _{DS} =60V, V _{GS} =0V
V _{TH}	1.0		2.5	V	V _{DS} =10V, I _D =250μA
R _{e(yfs)}	1.0	2.3		S	V _{DS} =10V, I _D =1.0A
R _{DS(ON)}		0.20	0.25	Ω	V _{GS} =10V, I _D =1.0A
		0.25	0.30	Ω	V _{GS} =4V, I _D =1.0A
C _{iss}		170		pF	V _{DS} =10V, f=1.0MHz, V _{GS} =0V
C _{oss}		130		pF	I _D =1A, V _{DD} ≐30V, R _L =30Ω, V _{GS} =5V, see Fig. 3 on page 16.
C _{rss}		20		pF	
t _{d(on)}		80		ns	
t _r		170		ns	
t _{d(off)}		330		ns	
t _f		150		ns	I _{SD} =3A, V _{GS} =0V
V _{SD}		1.0	1.5	V	
t _{rr}		80		ns	I _{SD} =±100mA

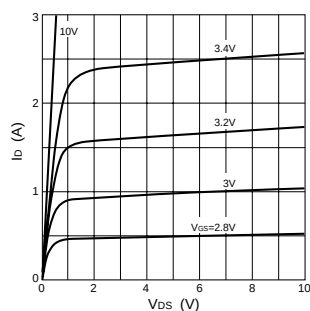
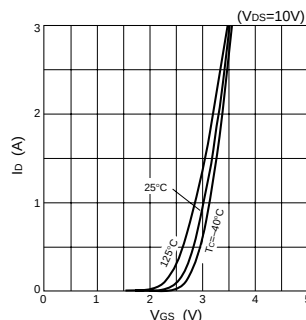
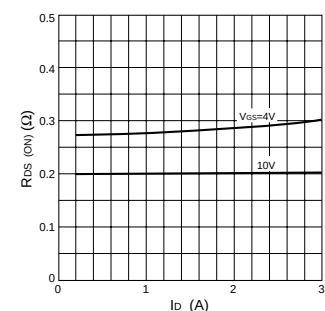
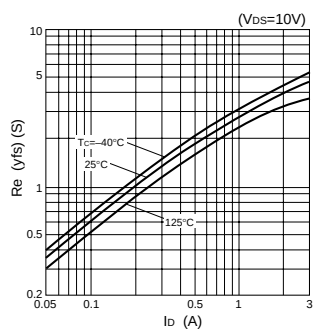
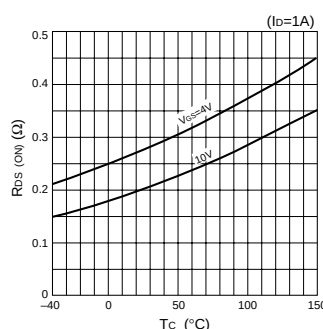
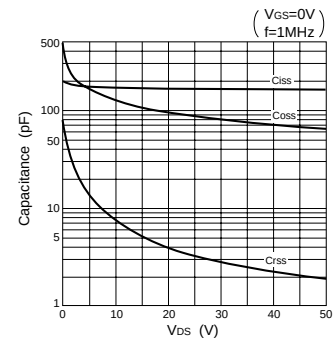
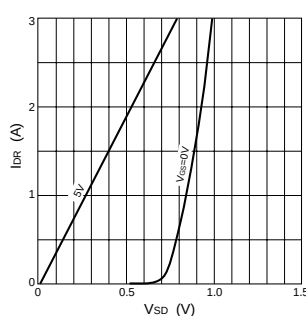
Equivalent circuit diagram



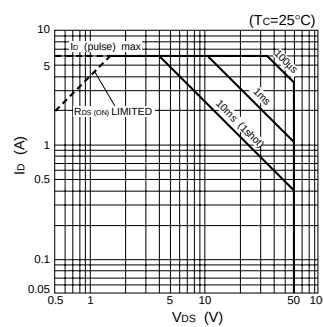
Diode for flyback voltage absorption

Symbol	Specification			Unit	Conditions
	min	typ	max		
V _R	120			V	I _R =10μA
V _F		1.0	1.2	V	I _F =1A
I _R			10	μA	V _R =120V
t _{rr}		100		ns	I _F =±100mA

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