

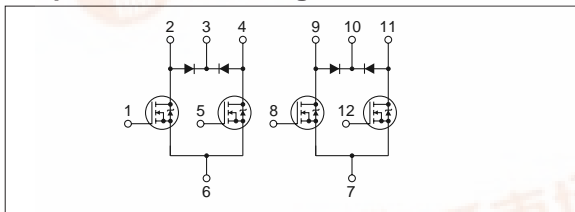
## Absolute maximum ratings

(Ta=25°C)

Symbol	Ratings	Unit
V <sub>DSS</sub>	100	V
V <sub>GSS</sub>	±10	V
I <sub>D</sub>	±5	A
I <sub>D(pulse)</sub>	±10 (PW≤1ms)	A
E <sub>AS*</sub>	32	mJ
I <sub>F</sub>	5 (PW≤0.5ms, Du≤25%)	A
I <sub>FSM</sub>	10 (PW≤10ms, Single pulse)	A
V <sub>R</sub>	120	V
P <sub>T</sub>	4 (Ta=25°C, with all circuits operating, without heatsink) 28 (Tc=25°C, with all circuits operating, with infinite heatsink)	W
θ <sub>J-a</sub>	31.2 (Junction-Air, Ta=25°C, with all circuits operating)	°C/W
θ <sub>J-c</sub>	4.46 (Junction-Case, Tc=25°C, with all circuits operating)	°C/W
T <sub>ch</sub>	150	°C
T <sub>stg</sub>	-40 to +150	°C

\* : V<sub>DD</sub>=20V, L=2mH, I<sub>D</sub>=5A, unclamped, see Fig. E on page 15.

## Equivalent circuit diagram



## Electrical characteristics

(Ta=25°C)

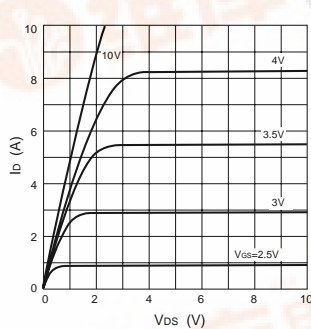
Symbol	Specification			Unit	Conditions
	min	typ	max		
V <sub>(BR)DSS</sub>	100			V	I <sub>D</sub> =250μA, V <sub>GS</sub> =0V
I <sub>GSS</sub>			±500	nA	V <sub>GS</sub> =±10V
I <sub>DSS</sub>			250	μA	V <sub>DS</sub> =100V, V <sub>GS</sub> =0V
V <sub>TH</sub>	1.0		2.0	V	V <sub>DS</sub> =10V, I <sub>D</sub> =250μA
Re(yfs)	3.1	4.5		S	V <sub>DS</sub> =10V, I <sub>D</sub> =5A
R <sub>DS(ON)</sub>		0.27	0.30	Ω	V <sub>GS</sub> =10V, I <sub>D</sub> =2.5A
		0.38	0.41	Ω	V <sub>GS</sub> =4V, I <sub>D</sub> =2.5A
C <sub>iss</sub>		470		pF	V <sub>DS</sub> =25V, f=1.0MHz, V <sub>GS</sub> =0V
C <sub>oss</sub>		130		pF	V <sub>GS</sub> =0V
ton		70		ns	I <sub>D</sub> =5A, V <sub>DD</sub> ÷50V, V <sub>GS</sub> =5V, see Fig. 3 on page 16.
toff		50		ns	
V <sub>SD</sub>		1.2	2.0	V	I <sub>SD</sub> =5A, V <sub>GS</sub> =0V
trr		330		ns	I <sub>SD</sub> =±100mA

## Diode for flyback voltage absorption (1 circuit)

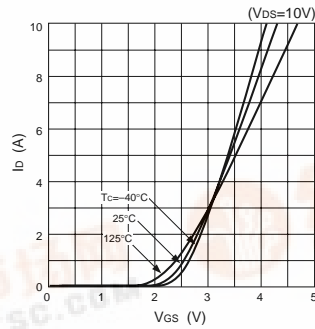
Symbol	Specification			Unit	Conditions
	min	typ	max		
V <sub>R</sub>	120			V	I <sub>R</sub> =10μA
V <sub>F</sub>		1.0	1.2	V	I <sub>F</sub> =1A
I <sub>R</sub>			10	μA	V <sub>R</sub> =120V
trr		100		ns	I <sub>F</sub> =±100mA

## Characteristic curves

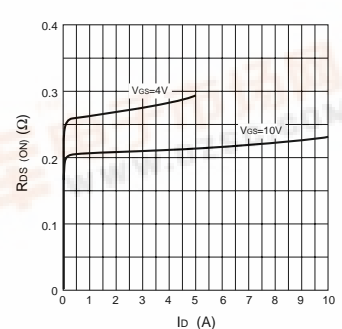
I<sub>D</sub>-V<sub>DS</sub> Characteristics (Typical)



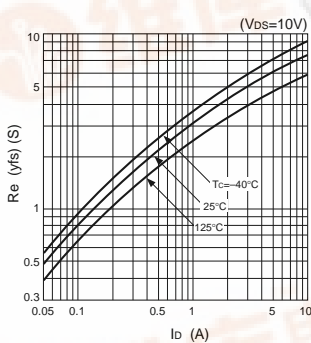
I<sub>D</sub>-V<sub>GS</sub> Characteristics (Typical)



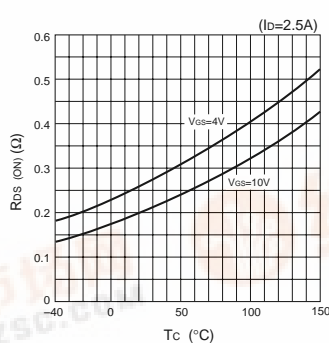
R<sub>DS(ON)</sub>-I<sub>D</sub> Characteristics (Typical)



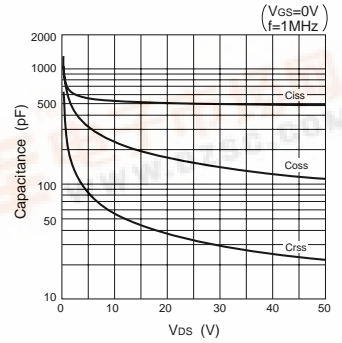
Re(y<sub>fs</sub>)-I<sub>D</sub> Characteristics (Typical)



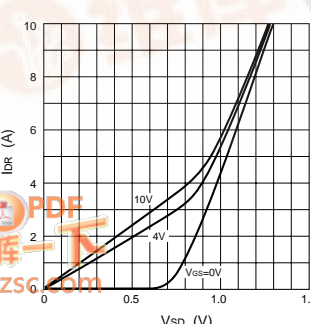
R<sub>DS(ON)</sub>-T<sub>C</sub> Characteristics (Typical)



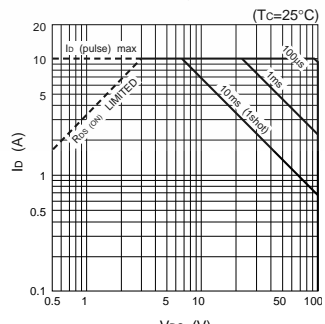
Capacitance-V<sub>DS</sub> Characteristics (Typical)



I<sub>DR</sub>-V<sub>SD</sub> Characteristics (Typical)



Safe Operating Area (SOA)



P<sub>T</sub>-T<sub>a</sub> Characteristics

