

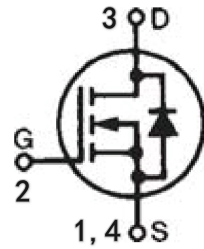
Features

- High power density
- Easy to mount
- Space savings
- Fast intrinsic Rectifier
- Very short recovery time
- Isolation voltage 2500 VAC
- International standard package

Applications

- DC-DC converters
- DC choppers
- Pulse generators
- Switched-mode and resonant-mode power supplies

Absolute Maximum Ratings ($T_c=25^{\circ}\text{C}$ unless otherwise specified)



Symbol	Parameter	Test Cobditions	Value	Units
V_{DSS}	Drain-to-Source Voltage	$T_J = 25^{\circ}\text{C}$ $T_J = 150^{\circ}\text{C}$	100	V
V_{GSS}	Gate-to-Source Voltage		± 20	V
I_D	Continuous Drain Current	$T_c = 25^{\circ}\text{C}$	420	A
I_{DM}	Pulsed Drain Current	$T_c = 25^{\circ}\text{C}$	1000	A
E_{AS}	Single Pulse Avalanche Energy	$T_c = 25^{\circ}\text{C}$	4.2	J
P_D	Maximum Power Dissipation ($T_c = 25^{\circ}\text{C}$)		1100	W
T_J	Operating Junction Temperature Range		-55 to +150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature Range		-55 to +150	$^{\circ}\text{C}$
V_{isol}	Isolation Breakdown Voltage	AC, 50Hz, RMS, $t=1\text{min}$	2500	V
Torque	Module to Sink	M4	1.0-1.5	Nm
	Module Electrodes		1.0-1.5	Nm
Weight			30	g
R_{thjc}	Junction to Case Thermal Resistance		0.13	$^{\circ}\text{C}/\text{w}$
R_{thck}	Case-to-Heat sink Thermal Resistance		0.05	$^{\circ}\text{C}/\text{w}$

Electrical Characteristics (T_c=25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
BV _{DSS}	Drain-to-Source Breakdown Voltage	V _{GS} = 0V, I _D = 250uA	100	-	-	V
I _{DSS}	Drain-to-Source Leakage Current	V _{DS} = 100V, V _{GS} = 0V	-	-	5	uA
I _{GSS}	Gate-to-Source Leakage Current	V _{GS} =20V, V _{DS} = 0V	-	-	100	nA
		V _{GS} = -20V, V _{DS} = 0V	-	-	-100	nA
V _{GS(th)}	Gate Threshold Voltage	V _{GS} = V _{DS} , I _D = 250uA	2.0	-	4.0	V
V _{RD(ON)}	Static Drain-to-Source On-Resistance	V _{GS} =10V, I _C =200A	-	-	3.5	mΩ
g _{fs}	Forward Transconductance	V _{DS} =15V, I _D =100A		90		S
Q _g	Total Gate Charge	V _{DD} =50V,	-	242		nC
Q _{gs}	Gate-to-Source Charge	I _D =100A,	-	60		nC
Q _{gd}	Gate-to-Drain (Miller) Charge	V _{GS} =10V	-	135		nC
t _{d(on)}	Turn-on Delay Time	V _{DD} =50V,	-	50	-	ns
t _r	Turn-on Rise Time	I _D =60A,	-	100	-	ns
t _{d(off)}	Turn-off Delay Time	V _{GS} =10V	-	110	-	ns
t _f	Turn-off Fall Time	R _g =3.3Ω	-	230	-	ns
C _{iss}	Input Capacitance	V _{GS} =0V,	-	50	-	nF
C _{oss}	Output Capacitance	V _{DS} =25V,	-	4200	-	pF
C _{rss}	Reverse Transfer Capacitance	f=1.0MHZ	-	600	-	pF

Source-Drain Diode(T_c=25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
I _{SD}	Continuous Source Current		-	-	420	A
I _{SM}	Pulsed Source Current		-	-	1600	
V _{SD}	Diode Forward Voltage	I _S =200A, V _{GS} = 0V	-	-	1.5	V
t _{rr}	Reverse Recovery Time	V _R = 50V	-	150	-	ns
I _{RM}	Diode peak Reverse Recovery Current	I _F = 25A,	-	8	-	A
Q _{rr}	Reverse Recovery Charge	di/dt=100A/μs	-	0.48	-	uC

Outlines

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