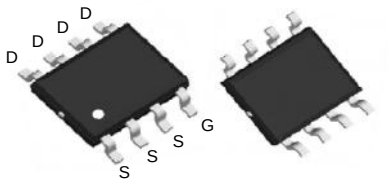
Features

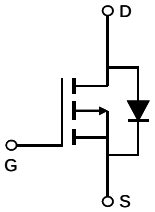
- -20V, -11A
  $R_{DS(ON)}$ < 14mΩ @ V_{GS} = -4.5V
  $R_{DS(ON)}$ < 21mΩ @ V_{GS} = -2.5V
- Advanced Trench Technology
- Excellent $R_{DS(ON)}$ and Low Gate Charge
- Lead Free

SOP-8



Applications

- Load Switch
- PWM Application
- Power Management



Absolute Maximum Ratings (T_A=25℃ unless otherwise specified)

Symbol	Parameter		Max.	Units
V_{DSS}	Drain-Source Voltage		-20	V
V_{GSS}	Gate-Source Voltage		±12	V
I_D	Continuous Drain Current	T_A= 25℃	-11	A
		T_A= 100℃	-7	A
I_{DM}	Pulsed Drain Current note1		-44	A
E_{AS}	Single Pulsed Avalanche Energy note2		64	mJ
P_D	Power Dissipation	T_A= 25℃	3.1	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient		40	℃/W
T_J, T_{STG}	Operating and Storage Temperature Range		-55 to +150	℃

Electrical Characteristics (T_J=25℃ unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristic						
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D= -250μA	-20	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}= -30V, V_{GS}=0V,	-	-	-1	μA
I_{GSS}	Gate to Body Leakage Current	V_{DS}=0V, V_{GS}= ±20V	-	-	±100	nA
On Characteristics						
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS}, I_D= -250μA		-0.5		V
$R_{DS(on)}$	Static Drain-Source on-Resistance note3	V_{GS}= -10V, I_D= -10A	-	13	14	mΩ
		V_{GS}= -4.5V, I_D= -5A	-	17	21	
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS}= -15V, V_{GS}=0V, f=1.0MHz	-	1631	-	pF
C_{oss}	Output Capacitance		-	194	-	pF
C_{rss}	Reverse Transfer Capacitance		-	172	-	pF
Q_g	Total Gate Charge	V_{DS}= -15V, I_D= -5A, V_{GS}= -10V	-	30	-	nC
Q_{gs}	Gate-Source Charge		-	5	-	nC
Q_{gd}	Gate-Drain(“Miller”) Charge		-	10	-	nC
Switching Characteristics						
$t_{d(on)}$	Turn-on Delay Time	V_{DD}= -15V, I_D= -10A, V_{GS}= -10V, R_{GEN}=2.4Ω	-	10	-	ns
t_r	Turn-on Rise Time		-	9.4	-	ns
$t_{d(off)}$	Turn-off Delay Time		-	24	-	ns
t_f	Turn-off Fall Time		-	12	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
I_S	Maximum Continuous Drain to Source Diode Forward Current		-	-	-11	A
I_{SM}	Maximum Pulsed Drain to Source Diode Forward Current		-	-	-44	A
V_{SD}	Drain to Source Diode Forward Voltage	V_{GS}=0V, I_S= -11A	-	-0.8	-1.2	V

Notes:1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature

2. E_{AS} condition: T_J=25℃, V_{DD}= -15V, V_G= -10V, R_G=25Ω, L=0.5mH, I_{AS}= -16A

3. Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%