

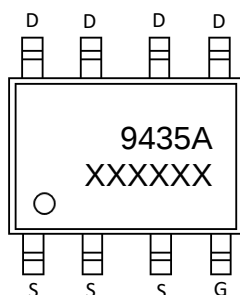


Features

- Trench Power MV MOSFET technology
- Excellent package for heat dissipation
- High density cell design for low $R_{DS(ON)}$

Application

- DC-DC Converters
- Power management functions

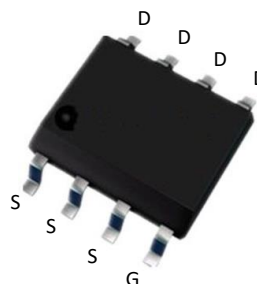


Marking and pin assignment

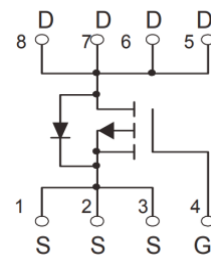
9435A : Device code
XXXXXX : Code

-30V/-5.0A P-Channel MOSFET Product Summary

V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
-30V	60mΩ@-10V	-5A
	90mΩ@-4.5V	



SOP-8 top view



Schematic diagram



Pb-Free



Halogen-Free

Absolute Maximum Ratings (TA=25°C unless otherwise noted)

Symbol	Parameter	Rating	Unit
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Common Ratings (TC=25°C Unless Otherwise Noted)

V_{DS}	Drain-Source Breakdown Voltage		-30	V
V_{GS}	Gate-Source Voltage		±20	V
T_J	Maximum Junction Temperature		150	°C
T_{STG}	Storage Temperature Range		-50 to 155	°C
I_S	Diode Continuous Forward Current	$T_C=25^\circ\text{C}$	-5	A

Mounted on Large Heat Sink

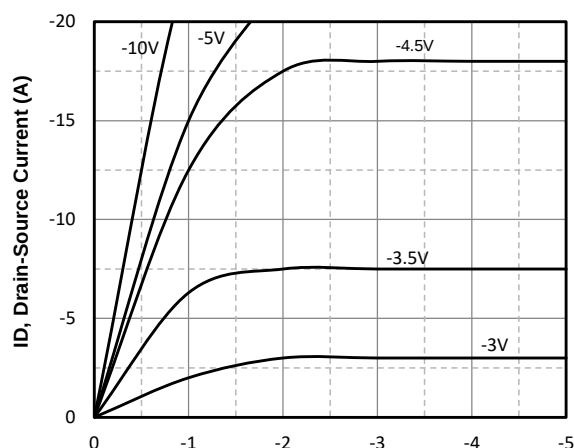
I_{DM}	Pulse Drain Current Tested	$T_C=25^\circ\text{C}$	-20	A
I_D	Continuous Drain Current@GS=10V	$T_C=25^\circ\text{C}$	-5	A
P_D	Maximum Power Dissipation	$T_C=25^\circ\text{C}$	2.5	W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient>(*1 in2 Pad of 2-oz Copper), Max.)		50	°C/W



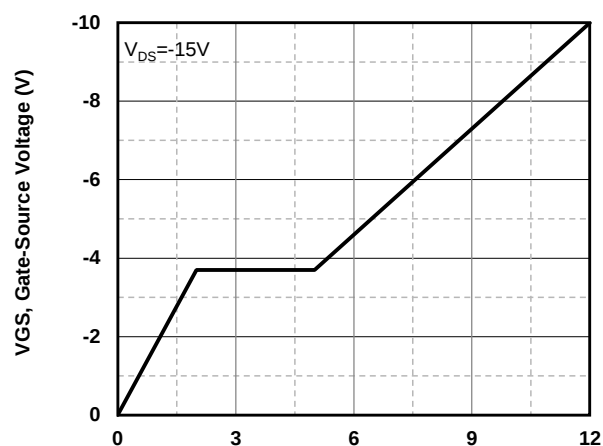
Electrical Characteristics (TJ=25℃ unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ TJ = 25℃ (unless otherwise stated)						
BV _{(BR)DSS}	Drain-Source Breakdown Voltage	VGS=0V, ID=-250μA	-30	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	VDS=-30V, VGS=0V	--	--	-1	uA
I _{GSS}	Gate-Body Leakage Current	VGS=±20V, VDS=0V	--	--	±100	nA
V _{GS(th)}	Gate Threshold Voltage	VDS=VGS, ID=-250μA	-1	-1.5	-2.5	V
R _{DS(on)}	Drain-Source On-State Resistance	VGS=-10V, ID=-4.9A	--	40	60	mΩ
		VGS=-4.5V, ID=-3.7A	--	56	90	
Dynamic Electrical Characteristics @ TJ = 25℃ (unless otherwise stated)						
C _{ISS}	Input Capacitance	VDS=-15V, VGS=0V, f=1MHz	--	520	--	pF
C _{OSS}	Output Capacitance		--	130	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	70	--	pF
Switching Characteristics						
Q _g	Total Gate Charge	VDS=-15V, ID=-5A, VGS=-10V	--	12	--	nC
Q _{gs}	Gate Source Charge		--	2	--	nC
Q _{gd}	Gate Drain Charge		--	2.9	--	nC
t _{d(on)}	Turn-on Delay Time	VDS=-15V, ID=-1A, VGS=-10V, RG=3Ω	--	7	--	nS
t _r	Turn-on Rise Time		--	13	--	nS
t _{d(off)}	Turn-Off Delay Time		--	14	--	nS
t _f	Turn-Off Fall Time		--	9	--	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	Tj=25℃, Is=-5A,	--	--	-1.2	V



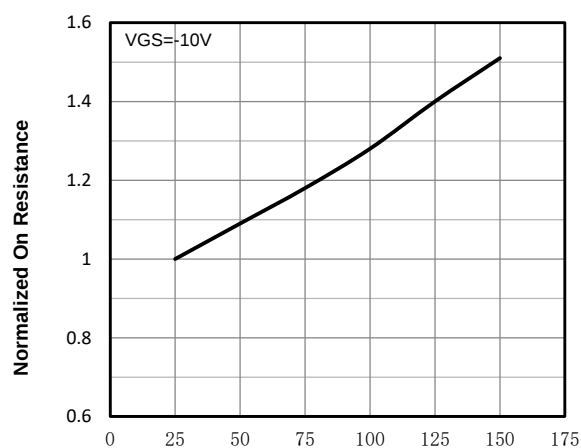
Typical Operating Characteristics



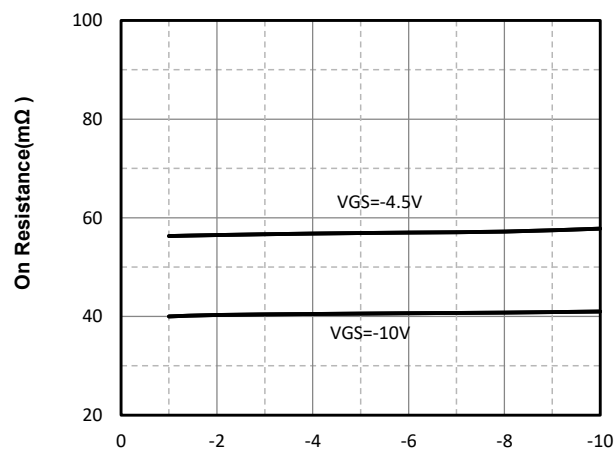
VDS, Drain -Source Voltage (V)
Fig1. Typical Output Characteristics



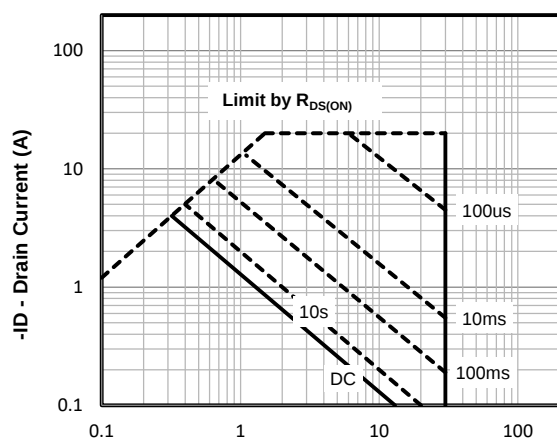
Qg -Total Gate Charge (nC)
Fig2. Typical Gate Charge Vs. Gate-Source Voltage



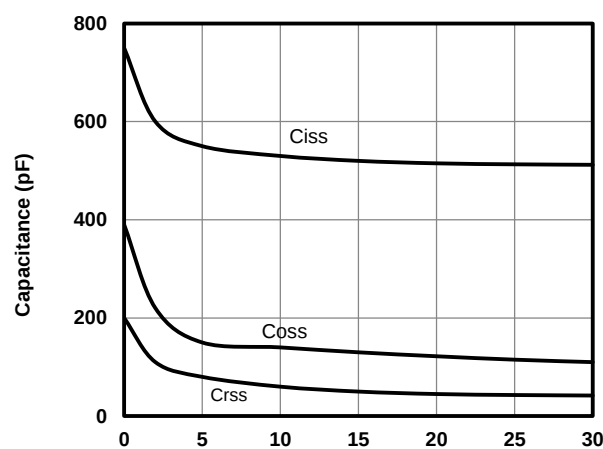
Tj - Junction Temperature (°C)
Fig3. Normalized On-Resistance Vs. Temperature



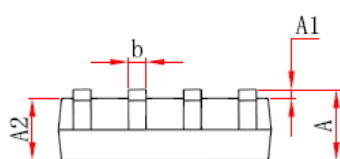
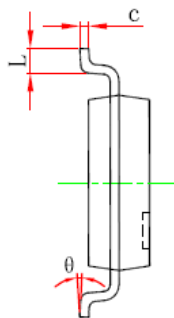
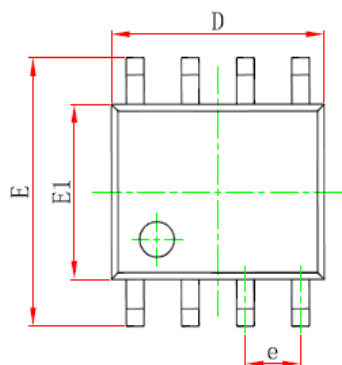
- ID, Drain-Source Current (A)
Fig4. On-Resistance Vs. Drain-Source Current



-VDS, Drain -Source Voltage (V)
Fig5. Maximum Safe Operating Area



-VDS, Drain-Source Voltage (V)
Fig6. Typical Capacitance Vs. Drain-Source Voltage

**SOP-8 Package information**

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.450	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.700	5.100	0.185	0.201
e	1.270 (BSC)		0.050 (BSC)	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°