- **P-Channel Power MOS FET**
- **DMOS Structure**
- **Low On-State Resistance: 0.19Ω MAX**
- **Ultra High-Speed Switching**
- **SOP-8 Package**
- **Two FET Devices built-in**

Applications

- Notebook PCs
- Cellular and portable phones
- On-board power supplies
- Li-ion battery systems

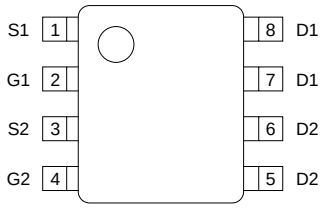
General Description

The XP134A01A9SR is a P-Channel Power MOS FET with low on-state resistance and ultra high-speed switching characteristics.
Two FET devices are built into the one package.
Because high-speed switching is possible, the IC can be efficiently set thereby saving energy.
The small SOP-8 package makes high density mounting possible.

Features

Low on-state resistance: Rds(on)=0.12Ω(Vgs=-10V)
Rds(on)=0.19Ω(Vgs=-4.5V)
Ultra high-speed switching
Operational Voltage: -4.5V
High density mounting: SOP-8

Pin Configuration

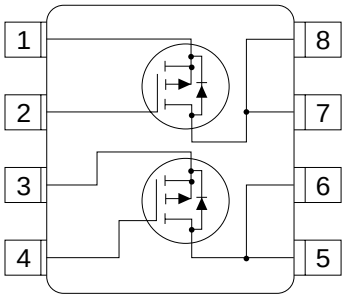


SOP-8
(TOP VIEW)

Pin Assignment

PIN NUMBER	PIN NAME	FUNCTION
1	S1	Source
2	G1	Gate
3	S2	Source
4	G2	Gate
5~6	D2	Drain
7~8	D1	Drain

Equivalent Circuit



P-Channel MOS FET
(2 devices built-in)

Absolute Maximum Ratings

Ta=25˚C

PARAMETER	SYMBOL	RATINGS	UNITS
Drain-Source Voltage	Vdss	-30	V
Gate-Source Voltage	Vgss	±20	V
Drain Current (DC)	Id	-3.5	A
Drain Current (Pulse)	Idp	-10	A
Reverse Drain Current	Idr	-3.5	A
Continuous Channel Power Dissipation (note)	Pd	2	W
Channel Temperature	Tch	150	˚C
Storage Temperature	Tstg	-55~150	˚C

Note: When implemented on a glass epoxy PCB

■ Electrical Characteristics

DC characteristics

Ta=25℃

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Drain Cut-off Current	Idss	Vds=-30V, Vgs=0V			-10	μA
Gate-Source Leakage Current	Igss	Vgs=±20V, Vds=0V			±1	μA
Gate-Source Cut-off Voltage	Vgs(off)	Id=-1mA, Vds=-10V	-1.0		-2.5	V
Drain-Source On-state Resistance (note)	Rds(on)	Id=-2A, Vgs=-10V		0.095	0.12	Ω
		Id=-2A, Vgs=-4.5V		0.15	0.19	Ω
Forward Transfer Admittance (note)	|Yfs|	Id=-2A, Vds=-10V		4		S
Body Drain Diode Forward Voltage	Vf	If=-3.5A, Vgs=0V		-0.85	-1.1	V

Note: Effective during pulse test.

Dynamic characteristics

Ta=25℃

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Input Capacitance	Ciss	Vds=-10V, Vgs=0V f=1MHz		600		pF
Output Capacitance	Coss			350		pF
Feedback Capacitance	Crss			110		pF

Switching characteristics

Ta=25℃

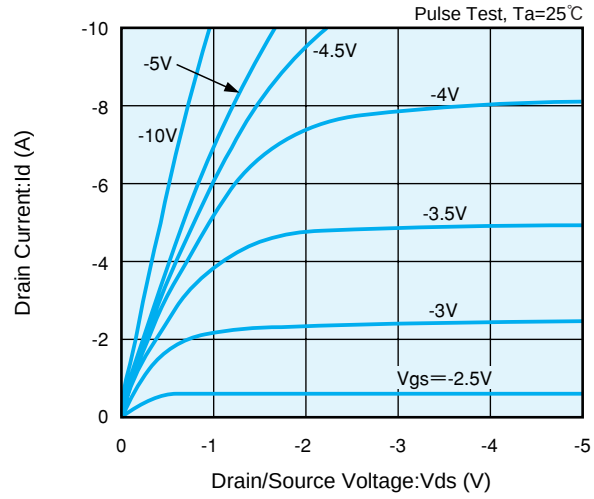
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Turn-on Delay Time	td (on)	Vgs=-5V, Id=-2A Vdd=-10V		15		ns
Rise Time	tr			25		ns
Turn-off Delay Time	td (off)			25		ns
Fall Time	tf			15		ns

Thermal characteristics

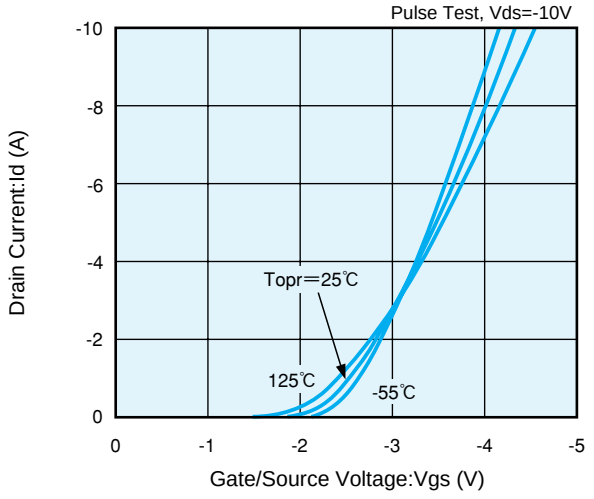
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Thermal Resistance (channel-surroundings)	Rth (ch-a)	Implement on a glass epoxy resin PCB		62.5		℃/W

■ Electrical Characteristics

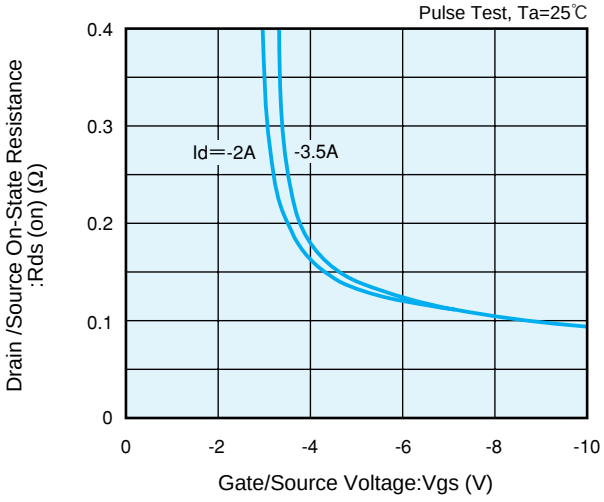
Drain Current vs. Drain /Source Voltage



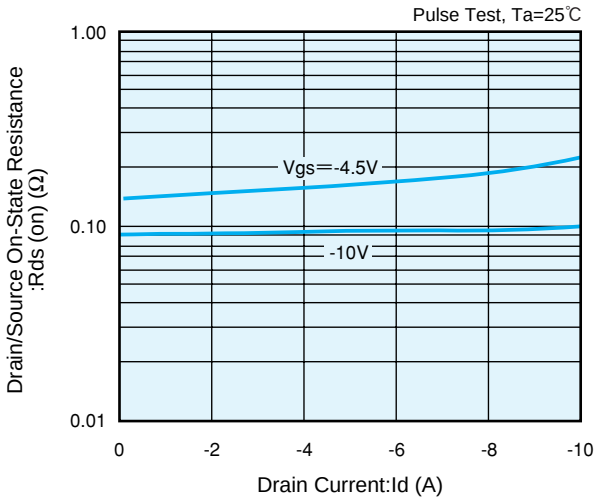
Drain Current vs. Gate/Source Voltage



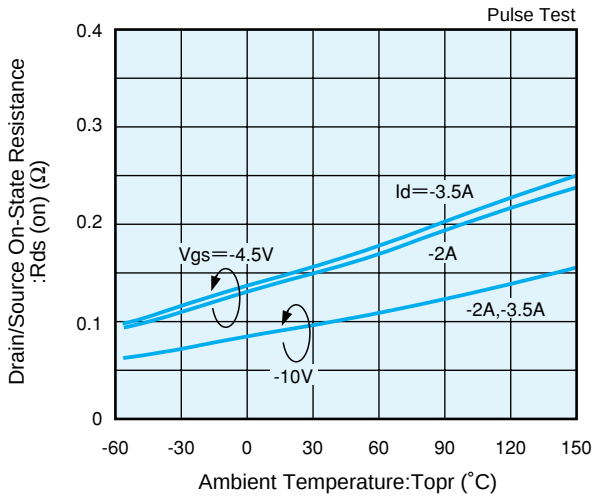
Drain/Source On-State Resistance vs. Gate/Source Voltage



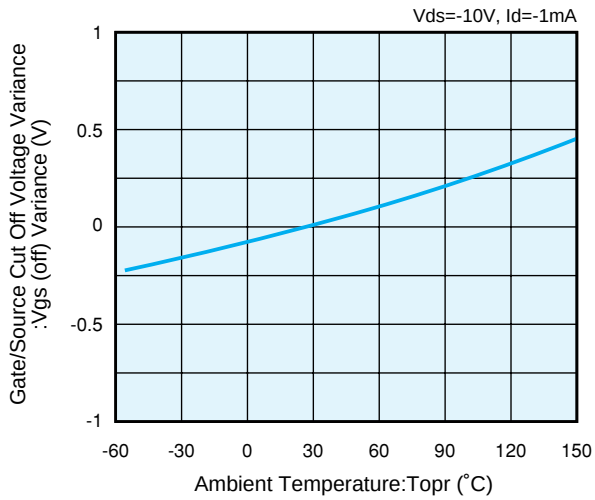
Drain/Source On-State Resistance vs. Drain Current



Drain/Source On-State Resistance vs. Ambient Temp.

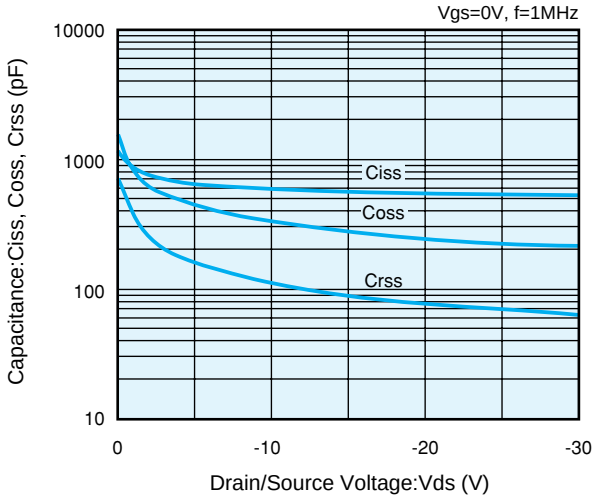


Gate/Source Cut Off Voltage Variance vs. Ambient Temp.

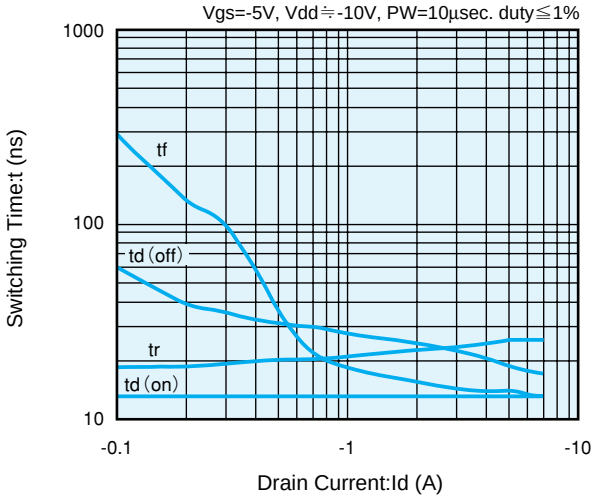


■ Electrical Characteristics

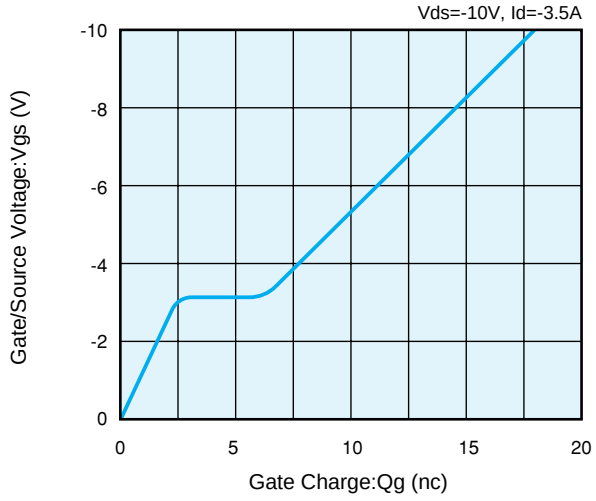
Drain/Source Voltage vs. Capacitance



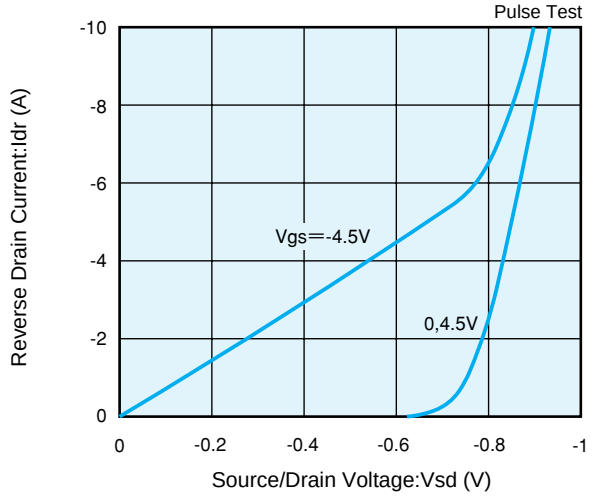
Switching Time vs. Drain Current



Gate/Source Voltage vs. Gate Charge



Reverse Drain Current vs. Source/Drain Voltage



Standardized Transition Thermal Resistance vs. Pulse Width