

Dual P-channel MOSFET

ELM34801AA-N

■General description

ELM34801AA-N uses advanced trench technology to provide excellent $R_{ds(on)}$, low gate charge and low gate resistance.

■Features

- $V_{ds}=-30V$
- $I_d=-6A$
- $R_{ds(on)} < 50m\Omega$ ($V_{gs}=-10V$)
- $R_{ds(on)} < 80m\Omega$ ($V_{gs}=-4.5V$)

■Maximum absolute ratings

$T_a=25^{\circ}C$. Unless otherwise noted.

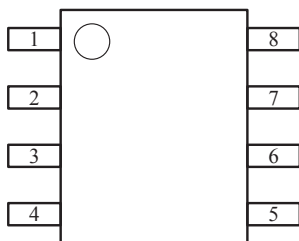
Parameter		Symbol	Limit	Unit	Note
Drain-source voltage		V_{ds}	-30	V	
Gate-source voltage		V_{gs}	± 20	V	
Continuous drain current	$T_a=25^{\circ}C$	I_d	-6	A	
	$T_a=70^{\circ}C$		-5		
Pulsed drain current		I_{dm}	-30	A	3
Power dissipation	$T_c=25^{\circ}C$	P_d	2.5	W	
	$T_c=70^{\circ}C$		1.3		
Junction and storage temperature range		T_j, T_{stg}	-55 to 150	$^{\circ}C$	

■Thermal characteristics

Parameter		Symbol	Typ.	Max.	Unit	Note
Maximum junction-to-ambient	Steady-state	$R_{\theta ja}$		62.5	$^{\circ}C/W$	

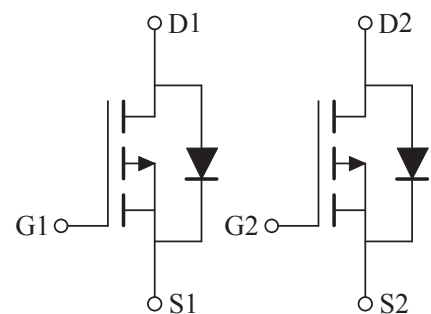
■Pin configuration

SOP-8(TOP VIEW)



Pin No.	Pin name
1	SOURCE1
2	GATE1
3	SOURCE2
4	GATE2
5	DRAIN2
6	DRAIN2
7	DRAIN1
8	DRAIN1

■Circuit



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■Electrical characteristics

Ta=25°C. Unless otherwise noted.

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit	Note
STATIC PARAMETERS							
Drain-source breakdown voltage	BVdss	Id=-250μA, Vgs=0V	-30			V	
Zero gate voltage drain current	Idss	Vds=-24V, Vgs=0V			-1	μA	
		Vds=-20V, Vgs=0V, Ta=125°C			-10		
Gate-body leakage current	Igss	Vds=0V, Vgs=±20V			±100	nA	
Gate threshold voltage	Vgs(th)	Vds=Vgs, Id=-250μA	-0.9	-1.5	-3.0	V	
On state drain current	Id(on)	Vgs=-10V, Vds=-5V	-30			A	1
Static drain-source on-resistance	Rds(on)	Vgs=-10V, Id=-6A		40	50	mΩ	1
		Vgs=-4.5V, Id=-5A		65	80		
Forward transconductance	Gfs	Vds=-10V, Id=-6A		16		S	1
Diode forward voltage	Vsd	If=-1A, Vgs=0V			-1.2	V	1
Max. body-diode continuous curren	Is				-2.1	A	
Pulsed current	Ism				-4	A	3
DYNAMIC PARAMETERS							
Input capacitance	Ciss	Vgs=0V, Vds=-15V, f=1MHz		530		pF	
Output capacitance	Coss			135		pF	
Reverse transfer capacitance	Crss			70		pF	
SWITCHING PARAMETERS							
Total gate charge	Qg	Vgs=-10V, Vds=-15V Id=-6A		10.0	14.0	nC	2
Gate-source charge	Qgs			2.2		nC	2
Gate-drain charge	Qgd			2.0		nC	2
Turn-on delay time	td(on)	Vgs=-10V, Vds=-15V Id=-1A, RL=1Ω, Rgen=6Ω		5.7		ns	2
Turn-on rise time	tr			10.0		ns	2
Turn-off delay time	td(off)			18.0		ns	2
Turn-off fall time	tf			5.0		ns	2
Body diode reverse recovery time	trr	If=-5A, dIf/dt=100A/μs		15.5		ns	
Body diode reverse recovery charge	Qrr	If=-5A, dIf/dt=100A/μs		7.9		nC	

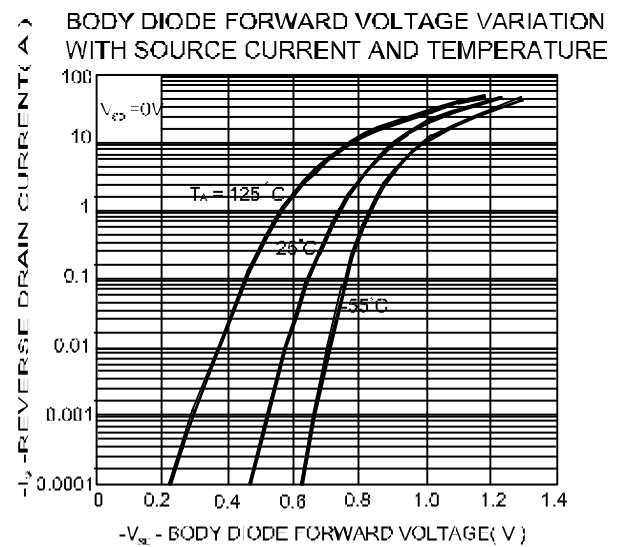
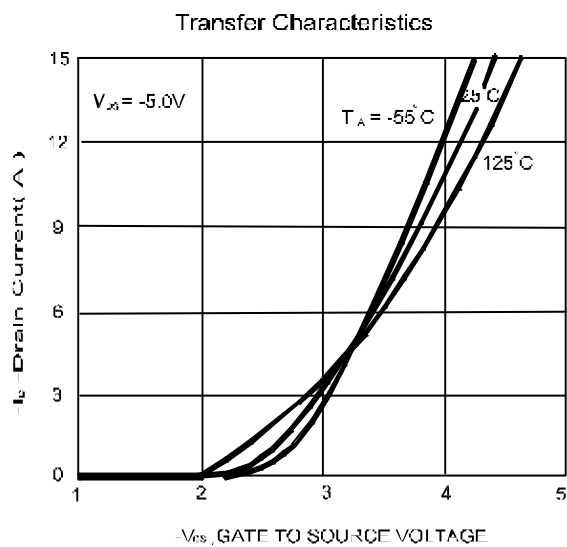
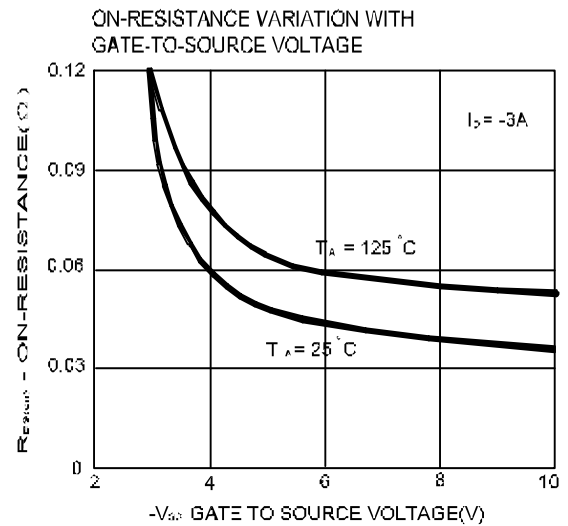
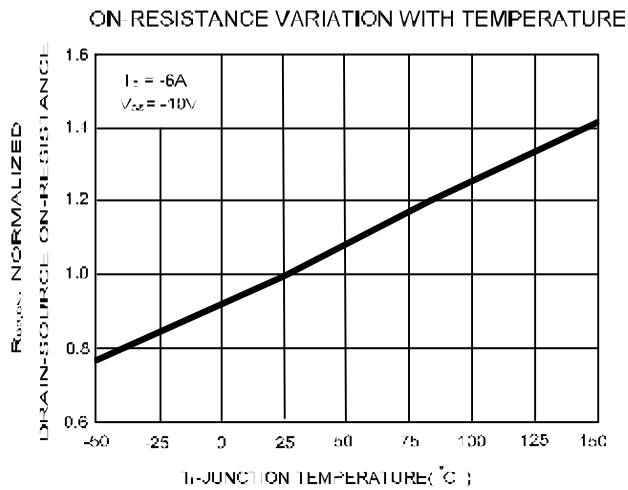
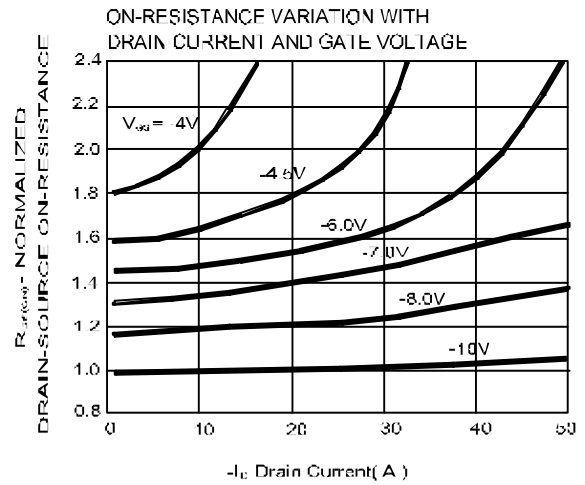
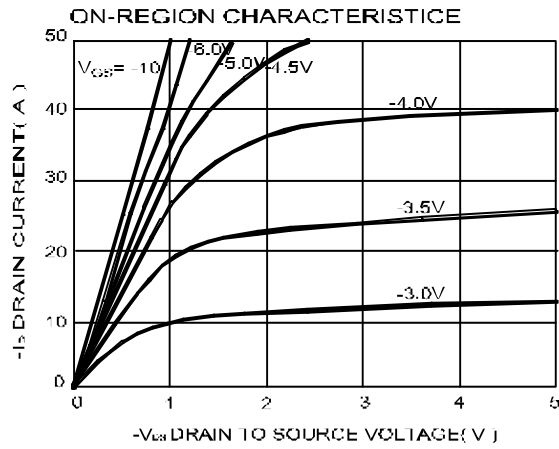
NOTE :

1. Pulsed width≤300μsec and Duty cycle≤2%.
2. Independent of operating temperature.
3. Pulsed width limited by maximum junction temperature.
4. Duty cycle ≤ 1%.

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Typical electrical and thermal characteristics



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