

# 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.

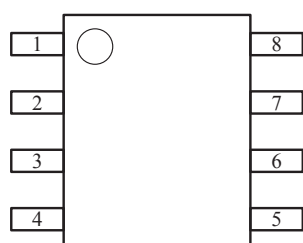
Parameter	Symbol	Limit	Unit	Note
Drain-source voltage	$V_{ds}$	-30	V	
Gate-source voltage	$V_{gs}$	$\pm 20$	V	
Continuous drain current	$I_d$	$T_a = 25^\circ C$	-6	A
		$T_a = 70^\circ C$	-5	
Pulsed drain current	$I_{dm}$	-30	A	3
Power dissipation	$P_d$	$T_c = 25^\circ C$	2.5	W
		$T_c = 70^\circ C$	1.3	
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	$R_{\theta ja}$		62.5	$^\circ C/W$	

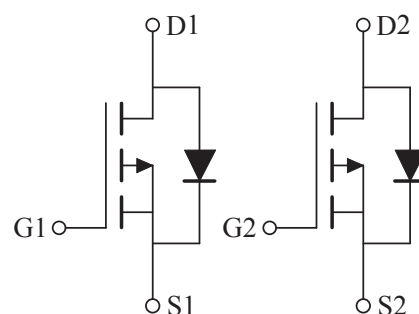
### ■ Pin configuration

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



# Dual P-channel MOSFET

## ELM34801AA-N

### ■Electrical characteristics

Ta=25°C. Unless otherwise noted.

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit	Note
<b>STATIC PARAMETERS</b>							
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
<b>DYNAMIC PARAMETERS</b>							
Input capacitance	Ciss	Vgs=0V, Vds=-15V, f=1MHz		530		pF	
Output capacitance	Coss			135		pF	
Reverse transfer capacitance	Crss			70		pF	
<b>SWITCHING PARAMETERS</b>							
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	

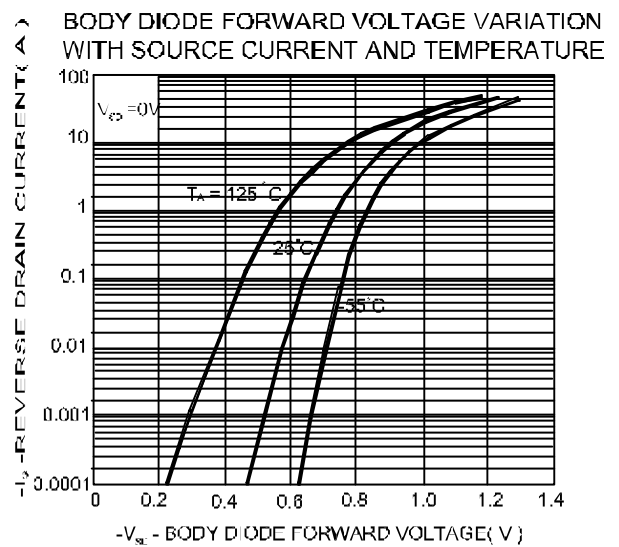
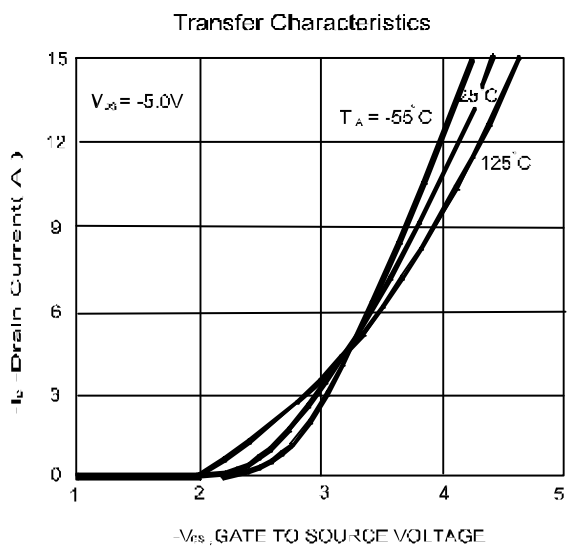
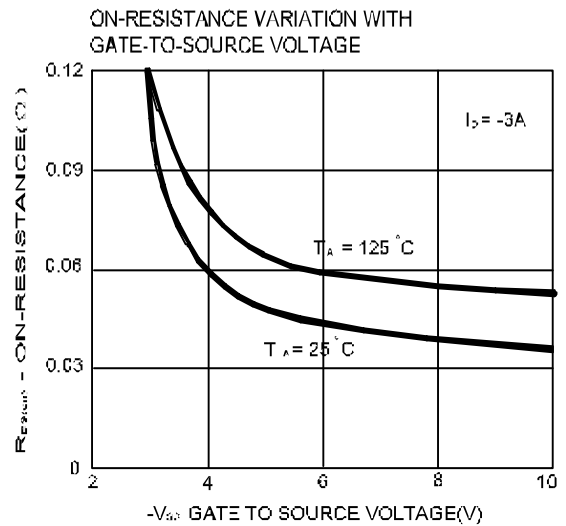
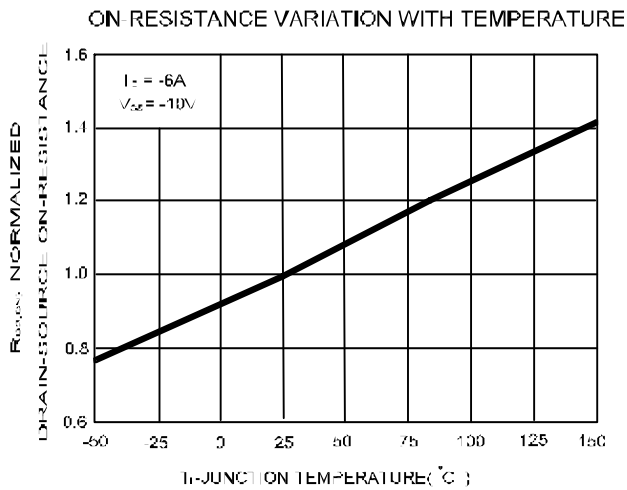
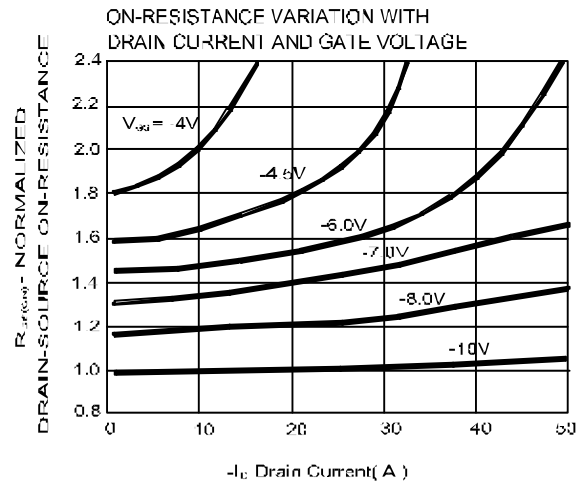
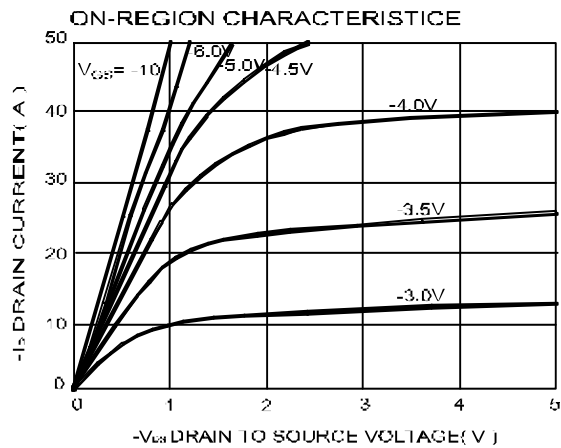
NOTE :

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%.

# Dual P-channel MOSFET

## ELM34801AA-N

### Typical electrical and thermal characteristics



# Dual P-channel MOSFET

## ELM34801AA-N

