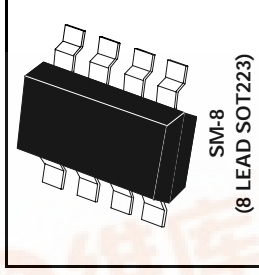
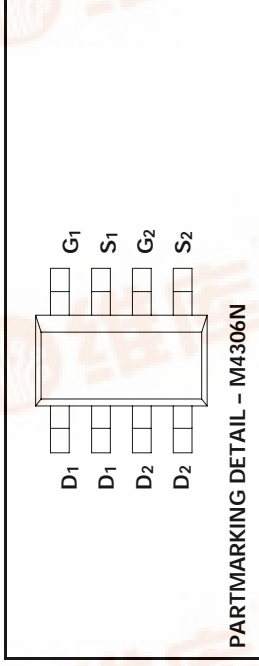


# SM-8 DUAL N-CHANNEL ENHANCEMENT MODE MOSFETS

ISSUE 1 - NOVEMBER 1995

## ZDM4306N



[查询ZDM4306N供应商](#)

### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Drain-Source Voltage	$V_{DS}$	60	V
Continuous Drain Current at $T_{amb}=25^{\circ}\text{C}$	$I_b$	2	A
Pulsed Drain Current	$I_{DM}$	15	A
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 to +150	$^{\circ}\text{C}$

### THERMAL CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNIT
Total Power Dissipation at $T_{amb} = 25^{\circ}\text{C}^*$ Any single die "on" Both die "on" equally	$P_{tot}$	2.5 3.0	W W
Derate above $25^{\circ}\text{C}^*$ Any single die "on" Both die "on" equally		20 24	mW/ $^{\circ}\text{C}$ mW/ $^{\circ}\text{C}$
Thermal Resistance - Junction to Ambient* Any single die "on" Both die "on" equally		50.0 41.6	$^{\circ}\text{C}/\text{W}$ $^{\circ}\text{C}/\text{W}$

\* The power which can be dissipated assuming the device is mounted in a typical manner on a PCB with copper equal to 2 inches square.

### Note:

This data is derived from development material and does not necessarily mean that the device will go into production

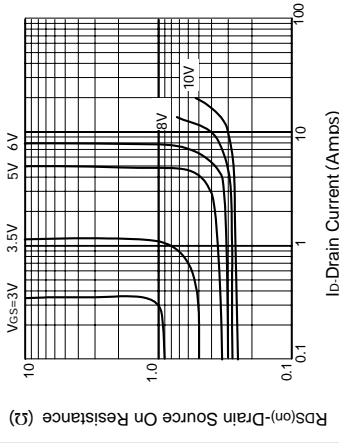
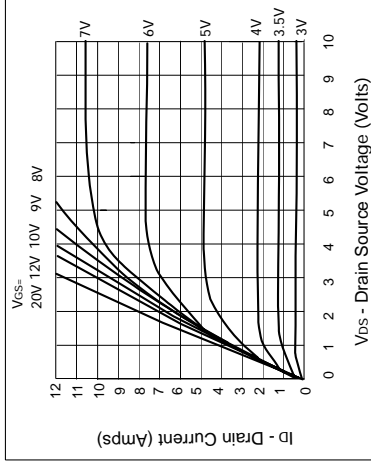
[捷多邦, 专业PCB打样工厂, 24小时加急出货](#)

**ELECTRICAL CHARACTERISTICS (at T<sub>amb</sub> = 25°C unless otherwise stated).**

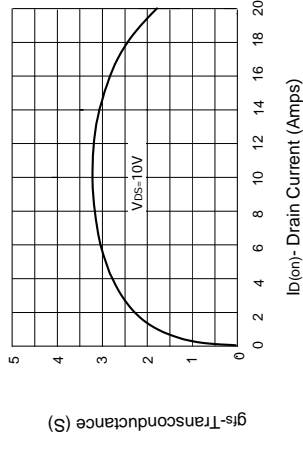
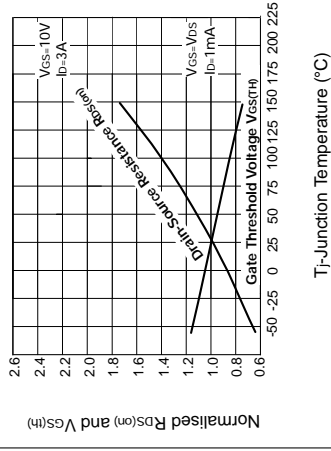
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	60			V	I <sub>D</sub> =1mA, V <sub>GS</sub> =0V
Gate-Source Threshold Voltage	V <sub>GS(th)</sub>	1.3		3	V	I <sub>D</sub> =1mA, V <sub>DS</sub> =V <sub>GS</sub>
Gate-Body Leakage	I <sub>GSS</sub>			100	nA	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>			10 100	µA µA	V <sub>DS</sub> =60V, V <sub>GS</sub> =0 V <sub>DS</sub> =48V, V <sub>GS</sub> =0V, T=125°C(2)
On-State Drain Current(1)	I <sub>D(on)</sub>	12			A	V <sub>DS</sub> =10V, V <sub>GS</sub> =10V
Static Drain-Source On-State Resistance (1)	R <sub>DS(on)</sub>		0.22 0.32	0.33 0.45	Ω Ω	V <sub>GS</sub> =10V, I <sub>D</sub> =3A V <sub>GS</sub> =5V, I <sub>D</sub> =1.5A
Forward Transconductance (1)(2)	g <sub>fs</sub>	700			mS	V <sub>DS</sub> =25V, I <sub>D</sub> =3A
Input Capacitance (2)	C <sub>iSS</sub>			350	pF	
Common Source Output Capacitance (2)	C <sub>oss</sub>			140	pF	V <sub>DS</sub> =25 V, V <sub>GS</sub> =0V, f=1MHz
Reverse Transfer Capacitance (2)	C <sub>rSS</sub>			30	pF	
Turn-On Delay Time (2)(3)	t <sub>d(on)</sub>			8	ns	
Rise Time (2)(3)	t <sub>r</sub>			25	ns	V <sub>DD</sub> =25V, V <sub>GEN</sub> =10V, I <sub>D</sub> =3A
Turn-Off Delay Time (2)(3)	t <sub>d(off)</sub>			30	ns	
Fall Time (2)(3)	t <sub>f</sub>			16	ns	

Measured under pulsed conditions. Width=300µs. Duty cycle ≤2%  
 2) Sample test.  
 3) Switching times measured with 50Ω source impedance and <5ns rise time on a pulse generator

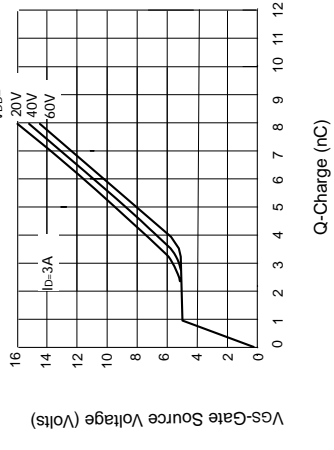
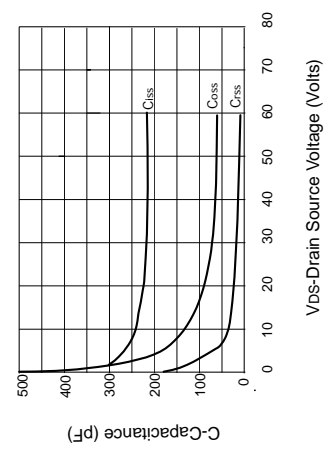
**TYPICAL CHARACTERISTICS**



**Saturation Characteristics**



**Normalised RDS(on) and VGS(th) v Temperature**

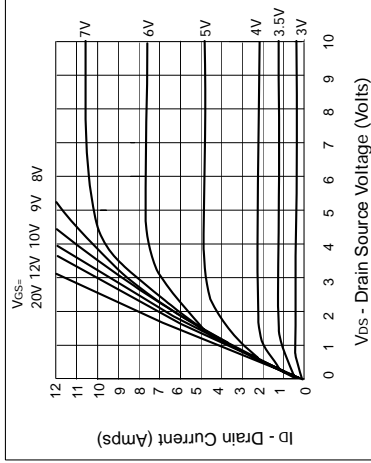


**ELECTRICAL CHARACTERISTICS (at T<sub>amb</sub> = 25°C unless otherwise stated).**

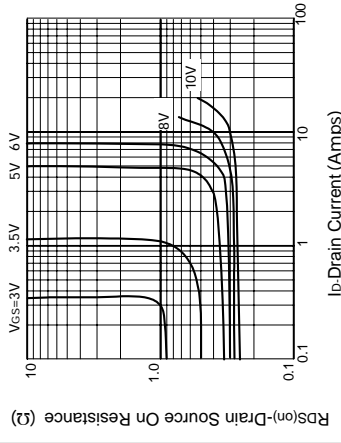
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Reverse Transfer Capacitance (2)	C <sub>riss</sub>			30	pF	
Turn-On Delay Time (2)(3)	t <sub>d(on)</sub>			8	ns	
Rise Time (2)(3)	t <sub>r</sub>			25	ns	V <sub>DD</sub> =25V, V <sub>GEN</sub> =10V, I <sub>D</sub> =3A
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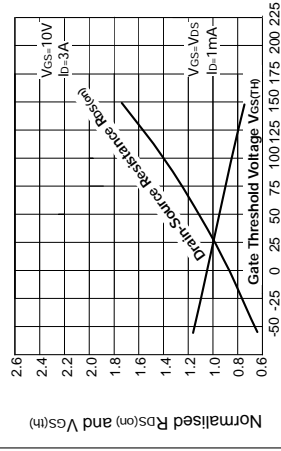
**TYPICAL CHARACTERISTICS**



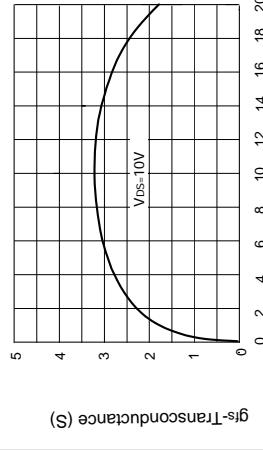
**Saturation Characteristics**



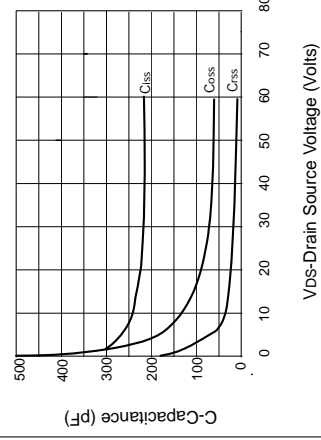
**On-resistance v drain current**



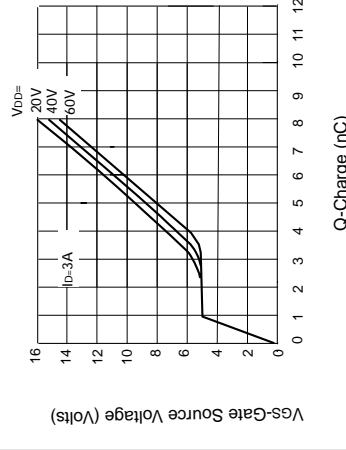
**Normalised RDS(on) and VGS(th) v Temperature**



**Transconductance v drain current**



**Capacitance v drain-source voltage**



**Gate charge v gate-source voltage**