

### General Description

This MOSFET utilizes a unique structure that combines the benefits of low on-resistance with fast switching speed, making it ideal for high-efficiency power management applications.

### Features

- RDS(ON)<80mΩ @ VGS=-10V
- RDS(ON)<120mΩ @ VGS=-4.5V
- Surface mount package

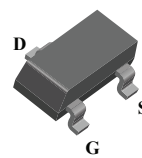
### Product Summary

BVDSS	R <sub>DS(on)</sub> max.	ID
-60V	80mΩ	-3.5A

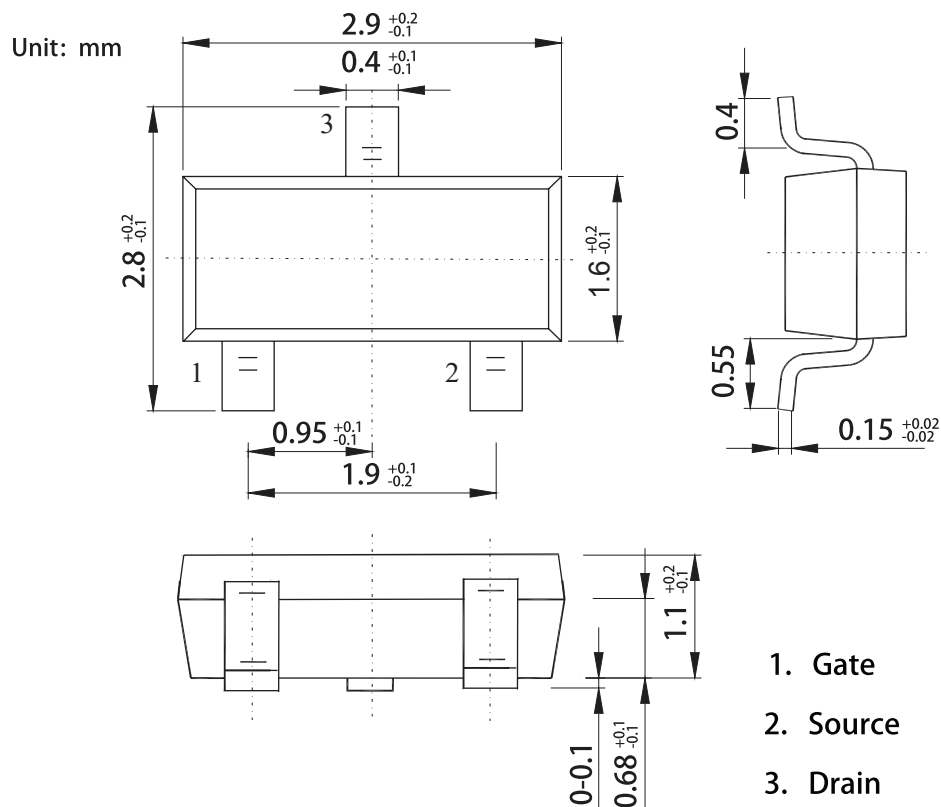
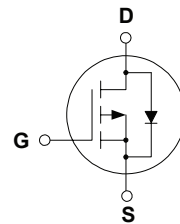
### Applications

- DC-DC converters
- Relay and solenoid driving
- Power management functions
- Load switch

### SOT-23-3L Pin Configuration



SOT-23-3L  
(CMN6385AM)



**Absolute Maximum Ratings**

Symbol	Parameter	Rating	Units
$V_{DS}$	Drain-Source Voltage	-60	V
$V_{GS}$	Gate-Source Voltage	±20	V
$I_D$	Continuous Drain Current	-3.5	A
$I_{DM}$	Pulsed Drain Current	-10	A
$P_D@T_A=25^\circ\text{C}$	Total Power Dissipation	1.4	W
$T_{STG}$	Storage Temperature Range	-55 to 150	°C
$T_J$	Operating Junction Temperature Range	150	°C

**Thermal Data**

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	---	89	°C/W

**Electrical Characteristics ( $T_J=25^\circ\text{C}$  , unless otherwise noted)**

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu\text{A}$	-60	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=-10V, I_D=-2A$	---	70	80	mΩ
		$V_{GS}=-4.5V, I_D=-1A$	---	90	120	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}, I_D=-250\mu\text{A}$	-1	---	-3	V
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=-60V, V_{GS}=0V$	---	---	-1	μA
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	---	---	±100	nA
$g_{fs}$	Forward Transconductance	$V_{DS}=-10V, I_D=-1A$	---	2.6	---	S
$R_g$	Gate Resistance	$V_{DS}=0V, V_{GS}=0V, f=1\text{MHz}$	---	12	---	Ω
$Q_g$	Total Gate Charge	$I_D=-3A$	---	19	---	nC
$Q_{gs}$	Gate-Source Charge	$V_{DS}=-30V$	---	3.4	---	
$Q_{gd}$	Gate-Drain Charge	$V_{GS}=-10V$	---	4.4	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=-30V, R_G=3\Omega$ $I_D=-3A, V_{GS}=-10V$	---	5	---	ns
$T_r$	Rise Time		---	23	---	
$T_{d(off)}$	Turn-Off Delay Time		---	34	---	
$T_f$	Fall Time		---	42	---	
$C_{iss}$	Input Capacitance	$V_{DS}=25V, V_{GS}=0V, f=1\text{MHz}$	---	880	---	pF
$C_{oss}$	Output Capacitance		---	50	---	
$C_{rss}$	Reverse Transfer Capacitance		---	40	---	

**Diode Characteristics**

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_{SD}$	Diode Forward Voltage	$V_{GS}=0V, I_S=-1A$	---	---	-1.2	V

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 Cmos reserves the right to improve product design, functions and reliability without notice.

**Typical Characteristics**
