

General Description

The AP4226GM uses advanced trench technology to provide excellent $R_{DS(ON)}$.

This is an all purpose device that is suitable for use in a wide range of power conversion applications.

Features

- Low On-Resistance
- 100% avalanche tested
- Dual MOSFET in surface mount package
- RoHS Compliant

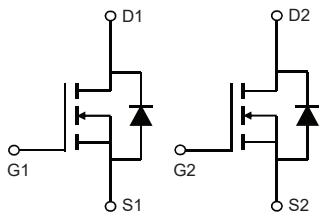
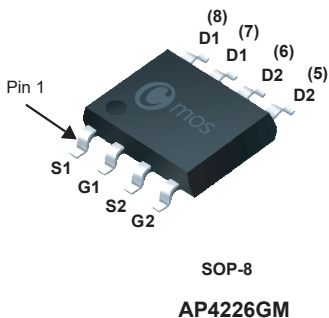
Product Summary

BVDSS	$R_{DS(on)}$ max.	ID
40V	24mΩ	7.5A

Applications

- DC/DC Converter
- Power Management
- Load Switch
- LCD Display inverter

SOP-8 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	40	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current	7.5	A
I_{DM}	Pulsed Drain Current	22	A
$P_D@T_A=25^{\circ}C$	Total Power Dissipation	2	W
T_{STG}	Storage Temperature Range	-55 to 150	°C
T_J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient (Steady-State)	---	62.5	°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	$V_{GS}=0V$, $I_D=250\mu A$	40	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=7A$	---	19	24	mΩ
		$V_{GS}=4.5V$, $I_D=4A$	---	23	32	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	1.0	---	3.0	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=40V$, $V_{GS}=0V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	±100	nA
g_{fs}	Forward Transconductance	$V_{DS}=5V$, $I_D=7.5A$	---	11	---	S
R_g	Gate Resistance	$V_{DS}=0V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	5.4	---	Ω
Q_g	Total Gate Charge	$I_D=7A$	---	14	---	nC
Q_{gs}	Gate-Source Charge	$V_{DD}=20V$	---	2	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=0$ to $10V$	---	2.5	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=20V$ $V_{GS}=10V$ $R_{GEN}=6\Omega$, $I_D=7A$	---	7	---	ns
T_r	Rise Time		---	3	---	
$T_{d(off)}$	Turn-Off Delay Time		---	20	---	
T_f	Fall Time		---	2	---	
C_{iss}	Input Capacitance	$V_{DS}=25V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	820	---	pF
C_{oss}	Output Capacitance		---	100	---	
C_{rss}	Reverse Transfer Capacitance		---	45	---	

Diode Characteristics

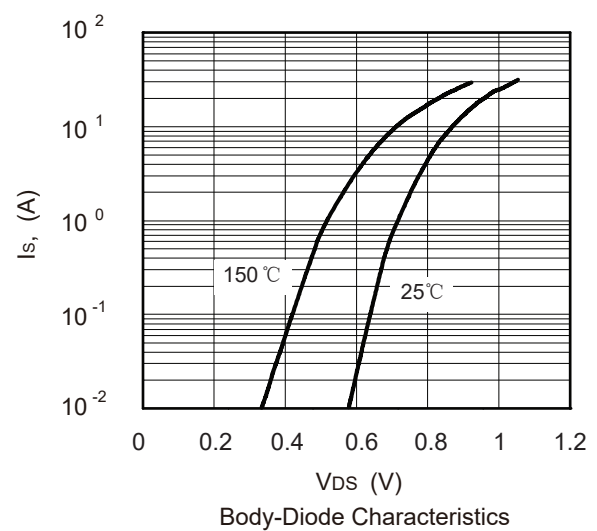
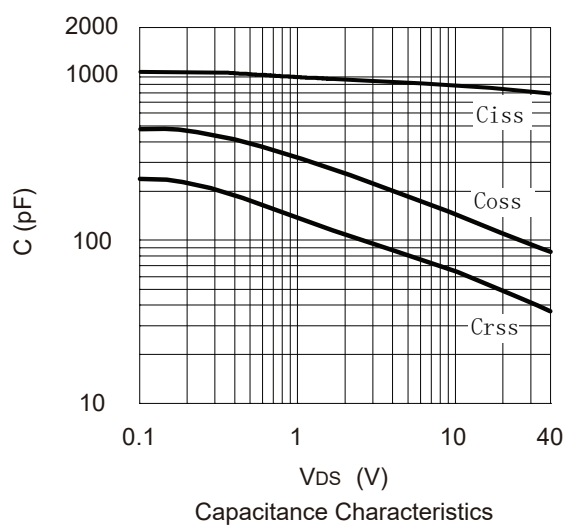
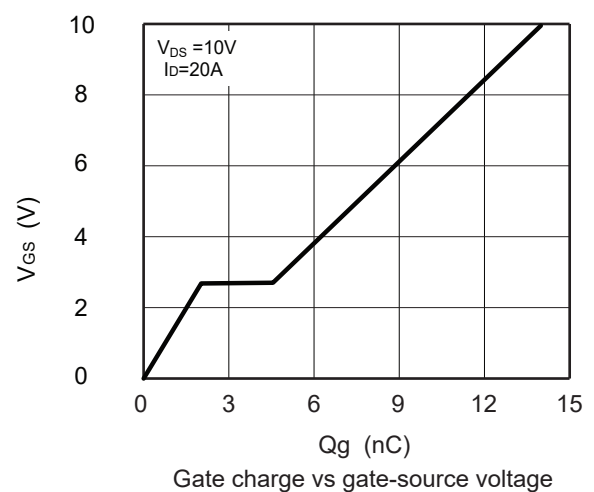
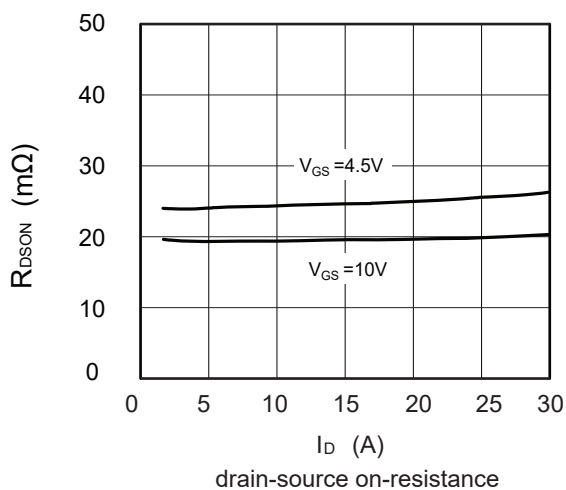
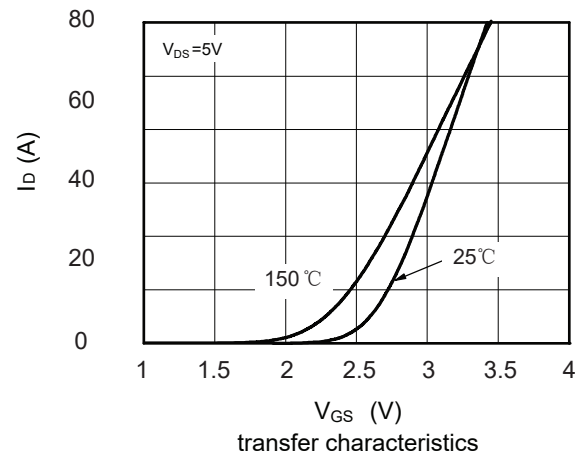
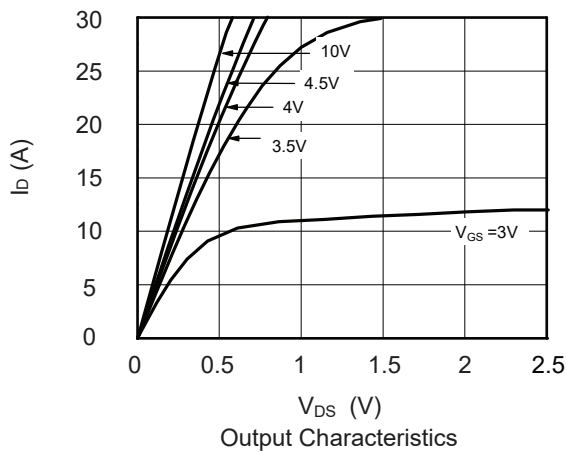
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=3A$	---	---	1.2	V

This product has been designed and qualified for the consumer market.

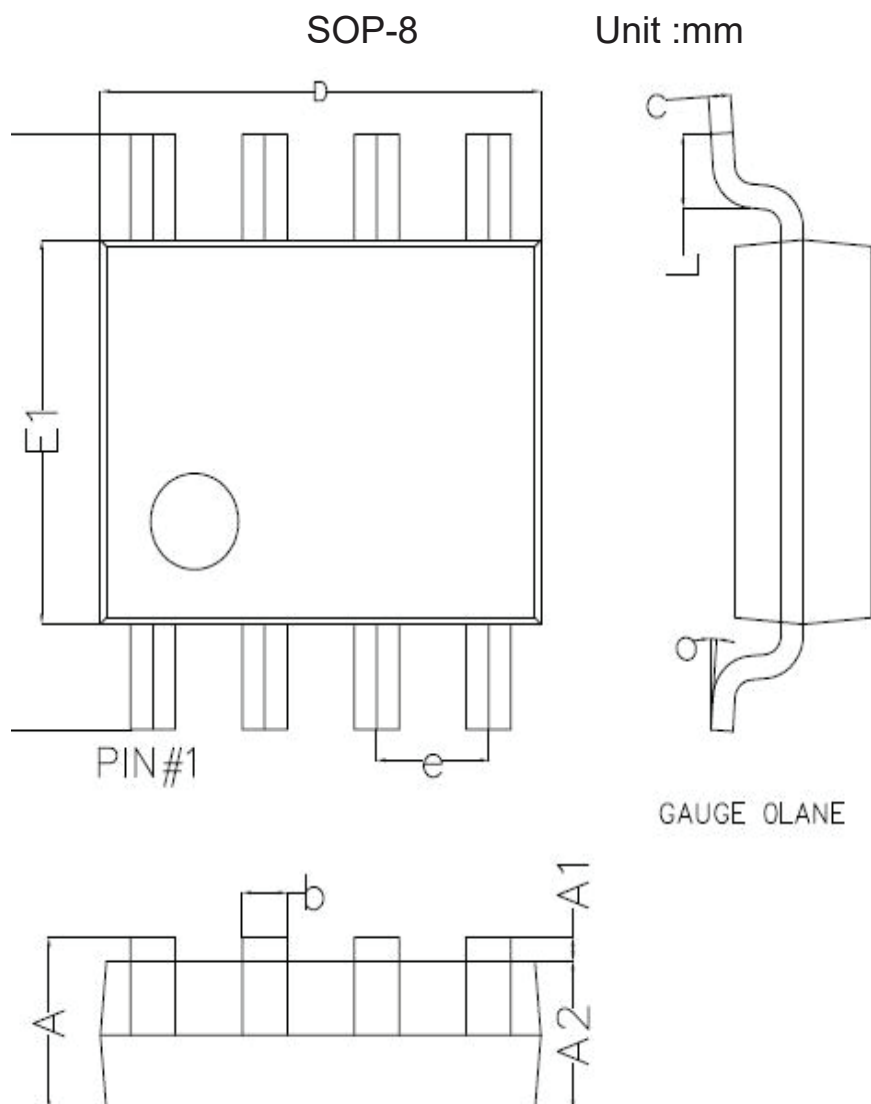
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Cmos reserves the right to improve product design, functions and reliability without notice. Please refer to the latest version of specification.

Typical Characteristics



Package Dimension



Symbol	Dim in mm		
	Min	Nor	Max
A	1.35	1.55	1.75
A1	0.02	0.065	0.10
A2	1.35	1.45	1.55
b	0.33	0.42	0.51
c	0.17	0.21	0.25
D	4.80	4.90	5.00
e	1.270 (BSC)		
E	5.80	6.00	6.20
E1	3.80	3.90	4.00
L	0.4	0.835	1.27
θ	0°	4°	8°