

General Description

The CMSA6276A uses advanced trench technology to provide excellent RDS (ON), low gate charge and minimize the loss of power conversion applications.

Features

- Low ON-resistance
- 100% avalanche tested
- Surface Mount Package
- RoHS Compliant

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	80	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_C=25^\circ\text{C}$	Continuous Drain Current	100	A
$I_D@T_C=100^\circ\text{C}$	Continuous Drain Current	80	A
I_{DM}	Pulsed Drain Current	400	A
EAS	Single Pulse Avalanche Energy ¹	702	mJ
$P_D@T_C=25^\circ\text{C}$	Total Power Dissipation	215	W
T_{STG}	Storage Temperature Range	-55 to 150	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	-55 to 150	$^\circ\text{C}$

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient(Steady-State)	---	50	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance Junction -Case (Steady-State)	---	0.58	$^\circ\text{C}/\text{W}$

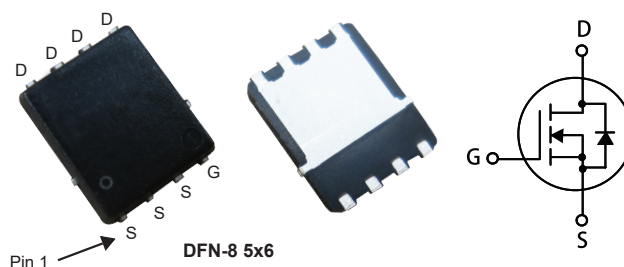
Product Summary

BVDSS	RDSON	ID
80V	3.4m Ω	100A

Applications

- DC/DC Converters in Computing, Servers, and POL
- Isolated DC/DC Converters in Telecom and Industrial

DFN-8 5x6 Pin Configuration



Type	Package	Marking
CMSA6276A	DFN-8 5*6	CMSA6276A

N-Channel Enhancement Mode Field Effect Transistor

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=250\mu A$	80	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=20A$	---	3	3.4	m Ω
		$V_{GS}=6V$, $I_D=20A$	---	4.8	5.8	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	2	---	4	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=80V$, $V_{GS}=0V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=5V$, $I_D=20A$	---	43	---	S
R_g	Gate Resistance	$V_{DS}=10V$, $V_{GS}=0V$, $f=1MHz$	---	1.7	---	Ω
Q_g	Total Gate Charge	$V_{DD}=40V$, $I_D=20A$ $V_{GS}=10V$	---	68	---	nC
Q_{gs}	Gate-Source Charge		---	15	---	
Q_{gd}	Gate-Drain Charge		---	14	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=40V$, $V_{GS}=10V$, $R_L=2\Omega$ $R_G=3\Omega$	---	14	---	ns
T_r	Rise Time		---	9	---	
$T_{d(off)}$	Turn-Off Delay Time		---	40	---	
T_f	Fall Time		---	10	---	
C_{iss}	Input Capacitance	$V_{DS}=25V$, $V_{GS}=0V$, $f=1MHz$	---	4200	---	pF
C_{oss}	Output Capacitance		---	2800	---	
C_{rss}	Reverse Transfer Capacitance		---	380	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Diode continuous forward current	$V_G=V_D=0V$, Force Current	---	---	100	A
$I_{S,pulse}$	Diode pulse current		---	---	400	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_F=28A$, $T_J=25^{\circ}\text{C}$	---	---	1.2	V

Notes:

1. The EAS data shows Max. rating .The test condition is $V_{DS}=40V$, $V_{GS}=10V$, $L=0.5mH$, $I_{AS}=53A$.

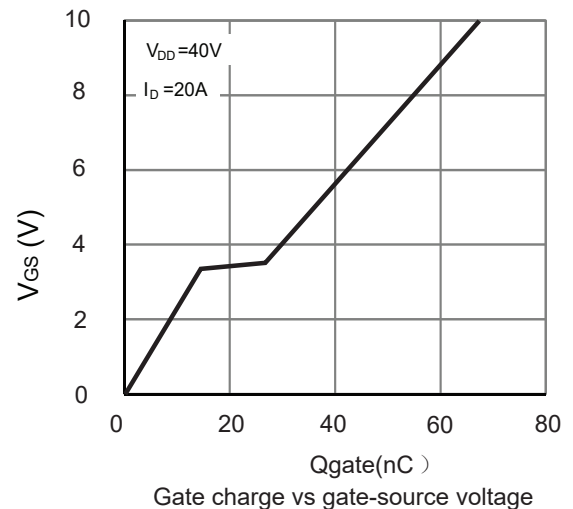
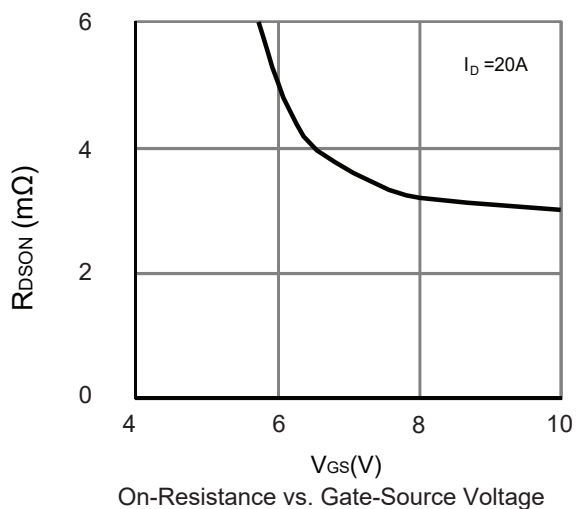
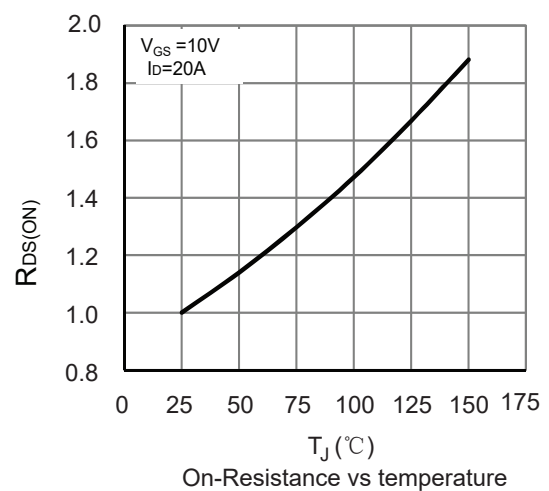
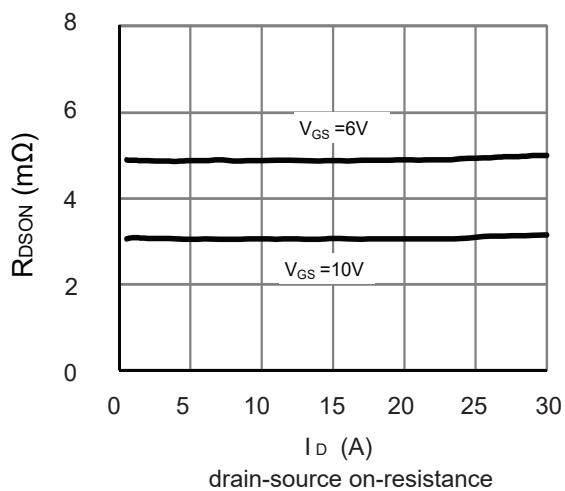
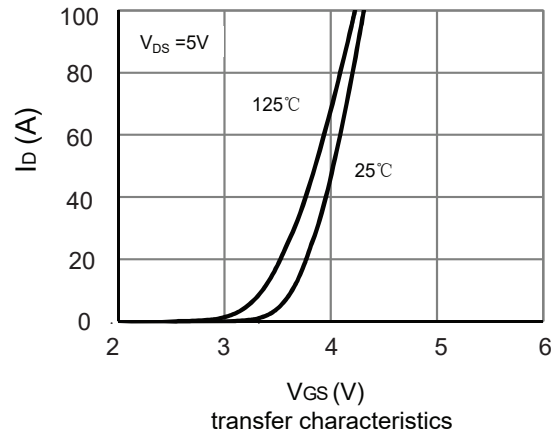
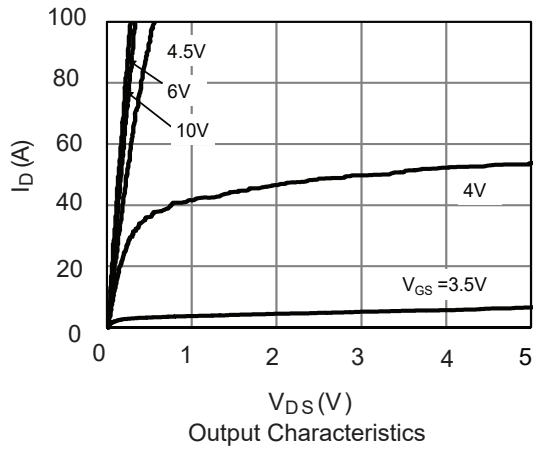
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Cmos reserves the right to improve product design ,functions and reliability without notice.

N-Channel Enhancement Mode Field Effect Transistor

Typical Characteristics



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