

General Description

The CMSC7341 combines advanced trench MOSFET technology with a low resistance package to provide extremely low RDS(ON).

This device is ideal for load switch and battery protection applications.

Features

- P-Channel MOSFET
- Low ON-resistance
- Surface Mount Package
- RoHS Compliant

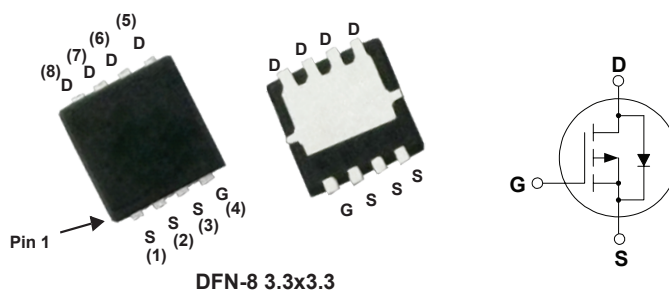
Product Summary

BVDSS	RDS(on) max.	ID
-40V	27mΩ	-12A

Applications

- High side in DC - DC Buck Converters
- Notebook battery power management
- Load switch in Notebook

DFN-8 3.3x3.3 Pin Configuration



Type	Package	Marking
CMSC7341	DFN-8 3.3*3.3	7341

Absolute Maximum Ratings (TA=25 °C Unless Otherwise Noted)

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	-40	V
V _{GS}	Gate-Source Voltage	±20	V
I _D	Continuous Drain Current	-12	A
I _{DM}	Pulsed Drain Current	-36	A
EAS	Single Pulse Avalanche Energy ¹	130	mJ
P _D @T _C =25°C	Total Power Dissipation	3	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 _{θJA}	Thermal Resistance, Junction-to-Ambient	---	81	°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	$V_{GS}=-10V$, $I_D=-20A$	---	---	27	m Ω
		$V_{GS}=-4.5V$, $I_D=-10A$	---	---	35	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D = -250\mu A$	-1	---	-2.5	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=-32V$, $V_{GS}=0V$	---	---	-1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS} = \pm 20V$, $V_{DS}=0V$	---	---	± 100	nA
Q_g	Total Gate Charge	$V_{DS}=-15V$, $I_D=-1A$ $V_{GS}=-5V$	---	10	---	nC
Q_{gs}	Gate-Source Charge		---	4	---	
Q_{gd}	Gate-Drain Charge		---	6	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=-15V$, $V_{GEN}=-10V$, $I_D=-1A$ $R_L=6\Omega$	---	10	---	ns
T_r	Rise Time		---	9	---	
$T_{d(off)}$	Turn-Off Delay Time		---	100	---	
T_f	Fall Time		---	51	---	
C_{iss}	Input Capacitance	$V_{DS}=-20V$, $V_{GS}=0V$, $f=1MHz$	---	2000	---	pF
C_{oss}	Output Capacitance		---	245	---	
C_{rss}	Reverse Transfer Capacitance		---	170	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_{SD}=-15A$	---	---	-1.2	V

Notes:

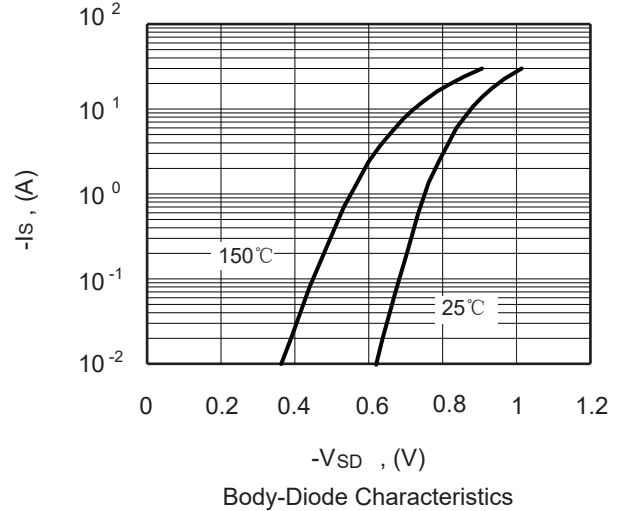
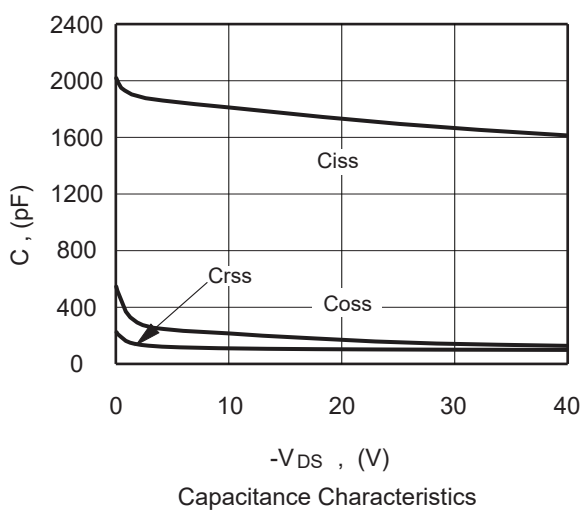
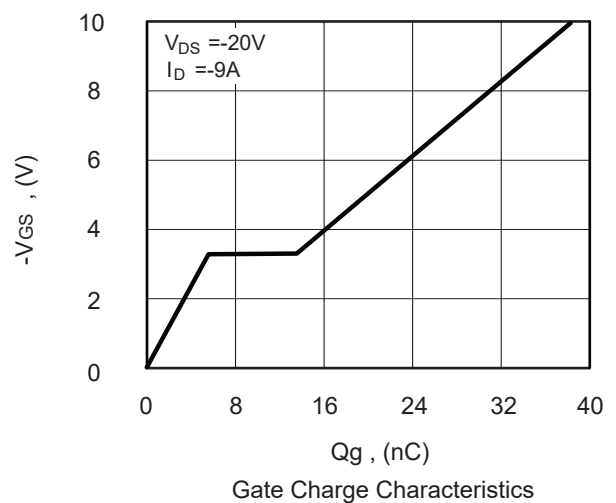
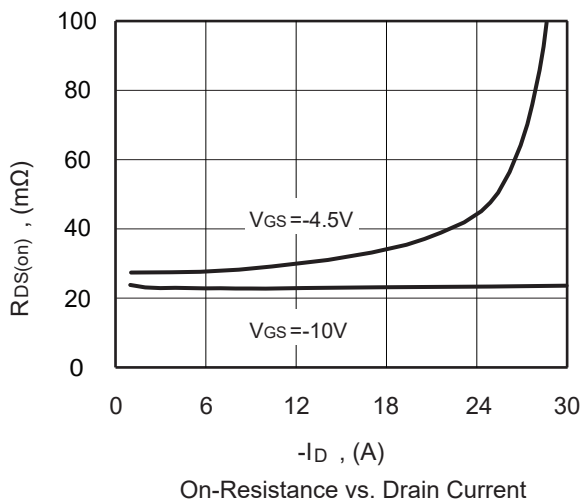
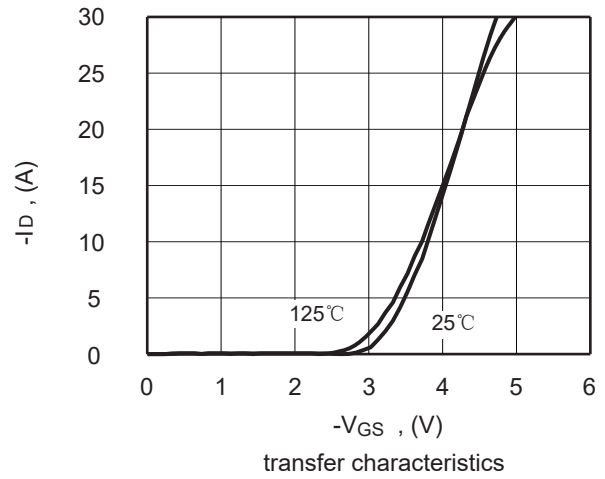
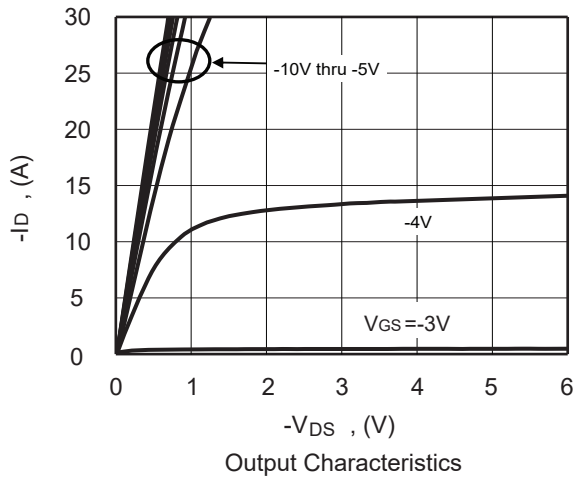
1. The test condition is $V_{DS}=-20V$, $V_{GS}=-10V$, $L=1mH$, $I_D=16A$.

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

Cmos assumes no liability for customers' product design or applications.

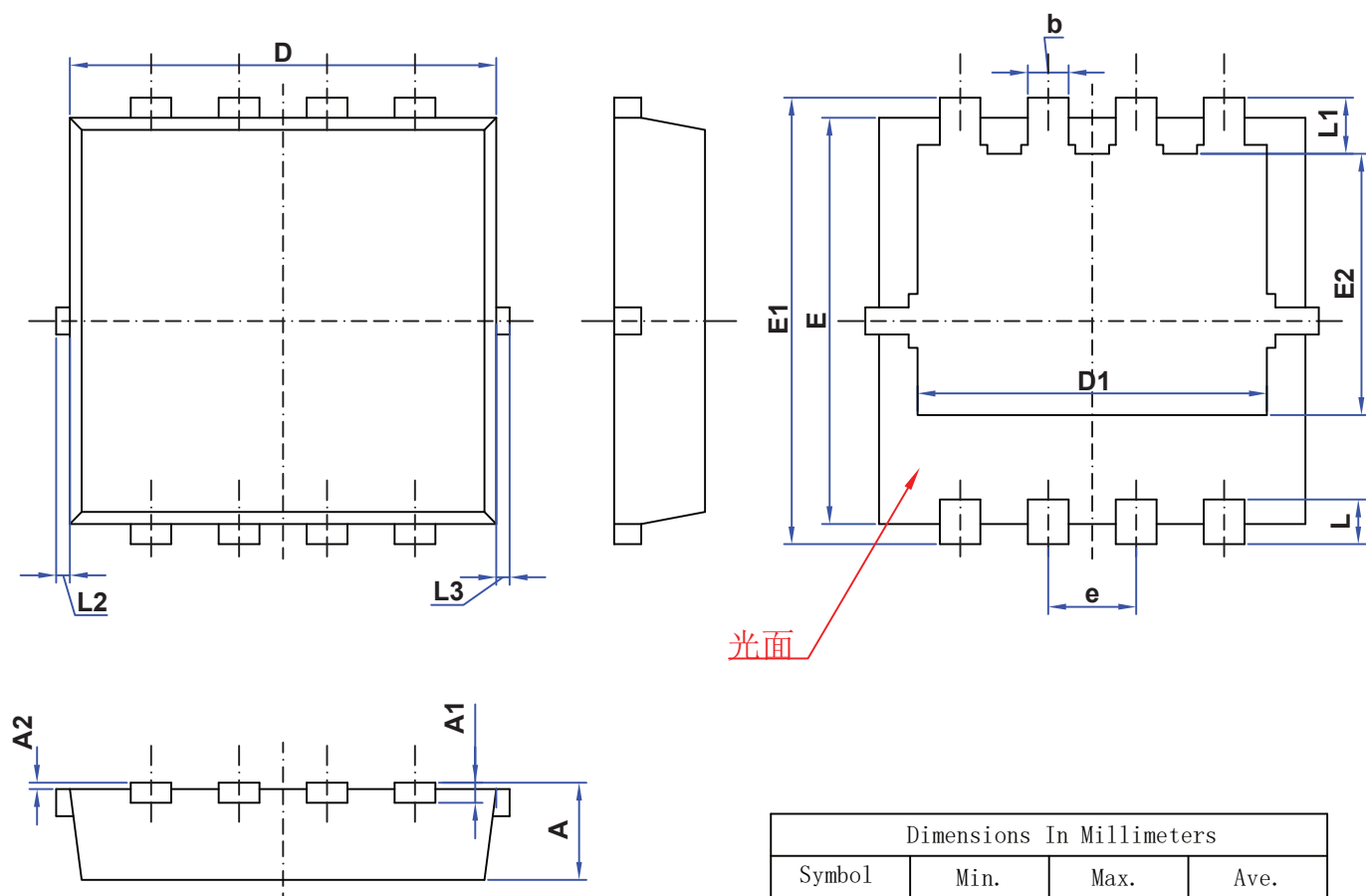
Cmos reserves the right to improve product design ,functions and reliability without notice.Please refer to the latest version of specification.

P-Channel: Typical Characteristics



Package Dimension

DFN-8 3.3x3.3 Unit :mm



注:

1. 未注公差 ± 0.10 ,
2. 塑封体无缺损、缩孔、裂纹、气泡等不良缺陷
3. 标注单位mm

Dimensions In Millimeters			
Symbol	Min.	Max.	Ave.
A	0.700	0.900	0.800
A1	0.100	0.200	0.150
A2	—	0.050	—
D	3.000	3.200	3.100
D1	2.350	2.550	2.450
E	3.000	3.200	3.100
E1	3.200	3.600	3.400
E2	1.635	1.835	1.735
b	0.200	0.400	0.300
e	0.550	0.750	0.650
L	0.250	0.650	0.450
L1	0.345	0.745	0.545
L2	0~0.100		
L3	0~0.100		