

General Description

Advanced Power MOSFETs from Cmos provide the designer with the best combination of fast switching and low on-resistance. This device is well suited for Power Management and load switching applications common in Notebook Computers and Portable Battery Packs.

Features

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

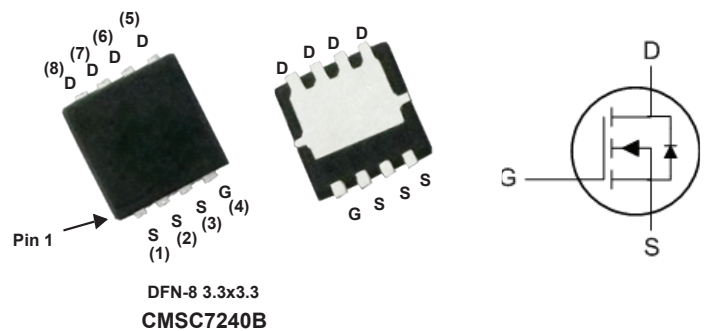
Product Summary

BVDSS	RDSON	ID
40V	6.5mΩ	40A

Applications

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

DFN-8 3.3x3.3 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	40	V
V_{GS}	Gate-Source Voltage	±20	V
$I_D@T_C=25^\circ C$	Continuous Drain Current	40	A
$I_D@T_C=100^\circ C$	Continuous Drain Current	28	A
I_{DM}	Pulsed Drain Current	120	A
EAS	Single Pulse Avalanche Energy ¹	68	mJ
$P_D@T_C=25^\circ C$	Total Power Dissipation	38	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	---	40	°C/W

Electrical Characteristics (T_J=25°C , unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V , I _D =250uA	40	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =20A	---	5.3	6.5	mΩ
		V _{GS} =4.5V , I _D =15A	---	11	14	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D = 250μA	1	---	3	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =32V , V _{GS} =0V	---	---	1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±20V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =10V, I _D =10A	---	10	---	S
Q _g	Total Gate Charge	V _{DS} =20V , I _D =20A V _{GS} =10 V	---	32	---	nC
Q _{gs}	Gate-Source Charge		---	5	---	
Q _{gd}	Gate-Drain Charge		---	6	---	
T _{d(on)}	Turn-On Delay Time	V _{DS} =20V , V _{GS} =10V , R _{GEN} =3Ω R _L =1Ω	---	12	---	ns
T _r	Rise Time		---	12	---	
T _{d(off)}	Turn-Off Delay Time		---	40	---	
T _f	Fall Time		---	10	---	
C _{iss}	Input Capacitance	V _{DS} = 20V , V _{GS} =0V , f=1MHz	---	3000	---	pF
C _{oss}	Output Capacitance		---	200	---	
C _{rss}	Reverse Transfer Capacitance		---	185	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Diode continuous forward current	V _G =V _b =0V , Force Current	---	---	40	A
I _{S,pulse}	Diode pulse current		---	---	120	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _F =20A , T _J =25°C	---	---	1.2	V

Notes:

1.The EAS data shows Max. rating . The test condition is VDD=-30V,VGS=-10V,L=0.5mH,IAS=-16.5A

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Cmos reserver the right to improve product design ,functions and reliability wihtout notice.