

General Description

This Power MOSFET is produced using Cmos's advanced planar stripe DMOS technology.

These devices are well suited for high efficiency switch mode power supply.

Features

- Fast Switching
- 100% avalanche tested
- RoHS Compliant

Product Summary

BVDSS	RDSON	ID
600V	0.29Ω	30A

Applications

- Switching applications

TO-247 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	600	V
V_{GS}	Gate-Source Voltage	±20	V
$I_D@T_C=25^{\circ}C$	Continuous Drain Current	30	A
$I_D@T_C=100^{\circ}C$	Continuous Drain Current	20	A
I_{DM}	Pulsed Drain Current	120	A
EAS	Single Pulse Avalanche Energy (Note 1)	1210	mJ
$P_D@T_C=25^{\circ}C$	Total Power Dissipation	300	W
T_{STG}	Storage Temperature Range	-55 to 150	°C
T_J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Rating	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	40	°C/W
$R_{\theta JC}$	Thermal Resistance Junction-case	0.42	°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	$V_{GS}=0V$, $I_D=250\mu A$	600	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=15A$	---	0.26	0.29	Ω
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	2	---	4	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=600V$, $V_{GS}=0V$	---	---	10	μA
		$V_{DS}=480V$, $T_C=125^{\circ}\text{C}$	---	---	100	
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	± 100	nA
g_{fs}	Forward Transconductance	$V_{DS}=15V$, $I_D=15A$	---	20	---	S
Q_g	Total Gate Charge	$I_D=24A$	---	110	---	nC
Q_{gs}	Gate-Source Charge	$V_{DD}=480V$	---	25	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=10V$	---	53	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DS}=300V$ $I_D=24A$ $R_L=25\Omega$	---	90	---	ns
T_r	Rise Time		---	270	---	
$T_{d(off)}$	Turn-Off Delay Time		---	200	---	
T_f	Fall Time		---	170	---	
C_{iss}	Input Capacitance	$V_{DS}=25V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	5300	---	pF
C_{oss}	Output Capacitance		---	350	---	
C_{rss}	Reverse Transfer Capacitance		---	1	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	$V_G=V_D=0V$, Force Current	---	---	30	A
I_{SM}	Pulsed Source Current		---	---	120	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=15A$	---	0.8	1.2	V

Note :

1. The EAS data shows Max. rating . The test condition is $V_{DD}=80V$, $V_{GS}=10V$, $L=20\text{mH}$, $I_{AS}=11A$.

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.

Typical Characteristics

