

General Description

80R450Q is power MOSFET using Cmos's advanced super junction technology that can realize very low on-resistance and gate charge. It will provide much high efficiency by using optimized charge coupling technology.

Features

- 100% avalanche tested
- Excellent ESD robustness
- Low Power Loss by High Speed Switching and Low On-Resistance
- RoHS Compliant

Product Summary

BVDSS	RDSON	ID
800V	0.45Ω	11A

Applications

- Charger
- Adaptor
- Power Supply
- Electrodeless lamp

TO-252/251 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	800	V
V_{GS}	Gate-Source Voltage	±30	V
$I_D@T_C=25^{\circ}C$	Continuous Drain Current	11	A
$I_D@T_C=100^{\circ}C$	Continuous Drain Current	7	A
I_{DM}	Pulsed Drain Current	44	A
EAS	Single Pulse Avalanche Energy ¹	163	mJ
$P_D@T_C=25^{\circ}C$	Total Power Dissipation	100	W
T_{STG}	Storage Temperature Range	-55 to 150	°C
T_J	Operating Junction Temperature Range	150	°C

Thermal Data

Symbol	Parameter	Rating	Unit
$R_{\theta JA}$	Thermal Resistance Junction-ambient	75	°C/W
$R_{\theta JC}$	Thermal Resistance Junction-case	1.25	°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	$V_{GS}=0V$, $I_D=250\mu A$	800	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=7A$	---	0.39	0.45	Ω
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	2.5	3.5	4.5	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=800V$, $V_{GS}=0V$	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 30V$, $V_{DS}=0V$	---	---	± 10	μA
g_{fs}	Forward Transconductance	$V_{DS}=20V$, $I_D=7A$	---	9	---	S
Q_g	Total Gate Charge	$I_D=11A$	---	25	---	nC
Q_{gs}	Gate-Source Charge	$V_{DS}=640V$	---	6.9	---	
Q_{gd}	Gate-Drain Charge	$V_{GS}=10V$	---	9.3	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{GS}=10V$	---	25	---	ns
T_r	Rise Time	$V_{DD}=400V$	---	42	---	
$T_{d(off)}$	Turn-Off Delay Time	$I_D=11A$	---	140	---	
T_f	Fall Time	$R_G=25\Omega$	---	22	---	
C_{iss}	Input Capacitance	$V_{DS}=25V$, $V_{GS}=0V$, $f=1MHz$	---	1000	---	pF
C_{oss}	Output Capacitance		---	1400	---	
C_{rss}	Reverse Transfer Capacitance		---	30	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	$V_G=V_D=0V$, Force Current	---	---	11	A
I_{SM}	Pulsed Source Current		---	---	44	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=11A$	---	0.88	1.4	V

Notes:

1.The EAS data shows Max. rating . The test condition is $V_{DD}=100V$, $V_{GS}=10V$, $L=30mH$, $I_{AS}=3.3A$

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

