

General Description

The 80R290R 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. These user friendly devices give an advantage of low EMI to designers as well as low switching loss.

Features

- Fast switching
- 100% avalanche tested
- RoHS Compliant

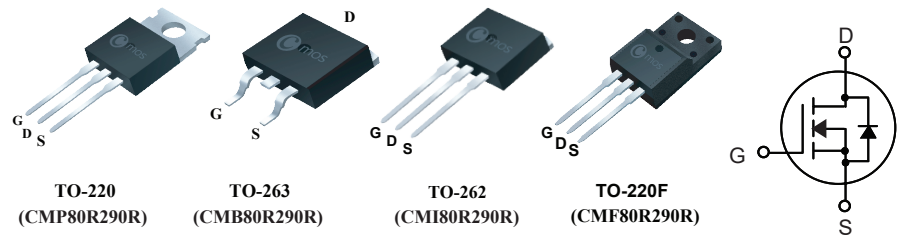
Product Summary

BVDSS	R _{DS(on)} max.	ID
800V	0.29Ω	17A

Applications

- Charger
- Adaptor
- Power Supply

TO-220/263/262/220F Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	220/263/262	220F	Units
V _{DS}	Drain-Source Voltage	800		V
V _{GS}	Gate-Source Voltage	±30		V
I _D @T _C =25°C	Continuous Drain Current	17	17*	A
I _D @T _C =100°C	Continuous Drain Current	10.8	10.8*	A
I _{DM}	Pulsed Drain Current	68	68*	A
EAS	Single Pulse Avalanche Energy (Note 1)	21.6		mJ
P _D @T _C =25°C	Total Power Dissipation	220	43	W
T _{STG}	Storage Temperature Range	-55 to 150		°C
T _J	Operating Junction Temperature Range	-55 to 150		°C

* Drain current limited by maximum junction temperature.

Thermal Data

Symbol	Parameter	220/263/262	220F	Unit
R _{θJA}	Thermal Resistance Junction-ambient	63.6	63.6	°C/W
R _{θJC}	Thermal Resistance Junction-case	0.57	2.9	°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	800	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =11A	---	0.235	0.29	Ω
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	2	---	4	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =800V , V _{GS} =0V	---	---	1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} = ±30V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =25V , I _D =10A	---	12	---	S
R _g	Gate Resistance	V _{DS} =0V , V _{GS} =0V , f=1MHz	---	5.2	---	Ω
Q _g	Total Gate Charge	I _D =17A	---	39	---	nC
Q _{gs}	Gate-Source Charge	V _{DS} =640V	---	7.3	---	
Q _{gd}	Gate-Drain Charge	V _{GS} =10V	---	19.2	---	
T _{d(on)}	Turn-On Delay Time	V _{DS} =400V	---	28	---	ns
T _r	Rise Time	V _{GS} =10V	---	50	---	
T _{d(off)}	Turn-Off Delay Time	I _D =17A	---	129	---	
T _f	Fall Time	R _G =25Ω	---	44	---	
C _{iss}	Input Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz	---	1500	---	pF
C _{oss}	Output Capacitance		---	2270	---	
C _{riss}	Reverse Transfer Capacitance		---	100	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current	V _G =V _D =0V , Force Current	---	---	17	A
I _{SM}	Pulsed Source Current		---	---	68	A
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =17A	---	0.9	1.4	V

Note :

1.The EAS data shows Max. rating .The test condition is V_{DS}=100V , V_{GS}=10V , L=30mH , I_{AS}=1.2A.

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Typical Characteristics

