

General Description

CMF65R380 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

- Multi-layer Epitaxial Chip Technology
- Low On-Resistance
- 100% avalanche tested
- RoHS Compliant

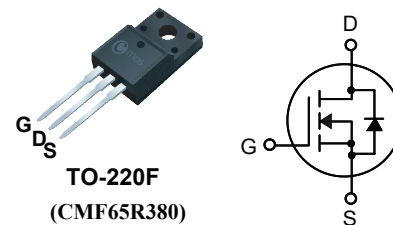
Product Summary

BVDSS	R _{DS(on)} max.	ID
650V	0.38Ω	11A

Applications

- Adaptor
- PFC power supply stages
- Switching applications

TO-220F Pin Configuration



Absolute Maximum Ratings (T_C=25°C unless otherwise noted)

Symbol	Parameter	Rating	Units
V _{DSS}	Drain-Source Voltage	650	V
I _D	Drain Current - Continuous (T _C = 25°C) - Continuous (T _C = 100°C)	11	A
		6.7	A
I _{DM}	Drain Current - Pulsed	44	A
V _{GSS}	Gate-Source Voltage	±30	V
E _{AS}	Single Pulsed Avalanche Energy ¹	75	mJ
P _D	Power Dissipation (T _C = 25°C)	31	W
T _J , T _{STG}	Operating and Storage Temperature Range	-55 to +150	°C

Thermal Characteristics

Symbol	Parameter	Rating	Units
R _{θJC}	Thermal Resistance, Junction-to-Case	4.1	°C/W
R _{θJA}	Thermal Resistance, Junction-to-Ambient	75	°C/W

Electrical Characteristic (T_C=25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
Off Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0 V, I _D = 250 μA	650	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 650 V, V _{GS} = 0 V	--	--	1	μA
		V _{DS} = 650 V, T _C = 125 °C	--	--	100	
I _{GSSF}	Gate-Body Leakage Current, Forward	V _{GS} = 30 V, V _{DS} = 0 V	--	--	100	nA
I _{GSSR}	Gate-Body Leakage Current, Reverse	V _{GS} = -30 V, V _{DS} = 0 V	--	--	-100	nA
On Characteristics						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = 250 μA	2	--	4	V
R _{DS(on)}	Static Drain-Source on-Resistance	V _{GS} = 10 V, I _D = 5.5A	--	0.34	0.38	Ω
g _{FS}	Forward Transconductance	V _{DS} = 10V, I _D = 5.5A	--	8.7	--	S
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{DS} =100V , V _{GS} = 0 V, f = 1.0 MHz	--	750	--	pF
C _{oss}	Output Capacitance		--	42	--	pF
C _{rss}	Reverse Transfer Capacitance		--	3.1	--	pF
Switching Characteristics						
t _{d(on)}	Turn-On Delay Time	V _{DS} = 325 V, I _D = 10.6A R _G = 25 Ω , V _{GS} =10V	--	20	--	ns
t _r	Turn-On Rise Time		--	40	--	ns
t _{d(off)}	Turn-Off Delay Time		--	110	--	ns
t _f	Turn-Off Fall Time		--	36	--	ns
Q _g	Total Gate Charge	V _{DS} = 520 V, I _D = 10.6A V _{GS} = 10V	--	21	--	nC
Q _{gs}	Gate-Source Charge		--	5	--	nC
Q _{gd}	Gate-Drain Charge		--	7.5	--	nC
Drain-Source Diode Characteristics and Maximum Ratings						
I _S	Maximum Continuous Drain-Source Diode Forward Current		--	--	11	A
I _{SM}	Maximum Pulsed Drain-Source Diode Forward Current		--	--	44	A
V _{SD}	Drain-Source Diode Forward Voltage	V _{GS} = 0 V, I _S = 9A	--	--	1.4	V
t _{rr}	Reverse Recovery Time	V _{GS} = 0 V, I _F = 7A	--	324	--	ns
Q _{rr}	Reverse Recovery Charge	dI _F / dt = 100 A/ μs	--	3.8	--	μC

Notes:

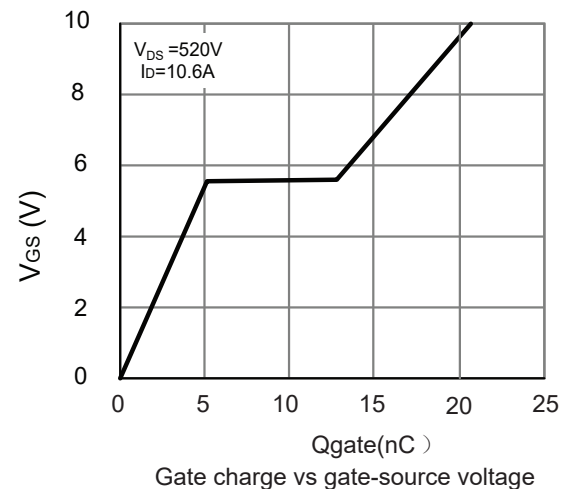
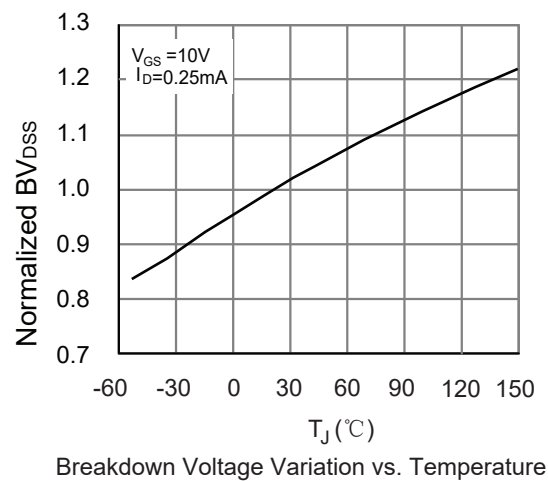
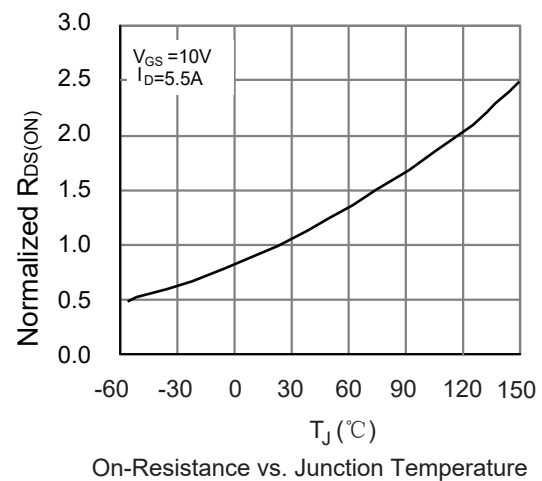
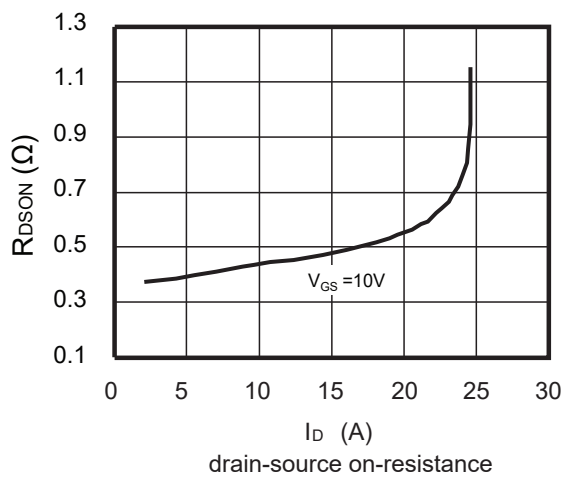
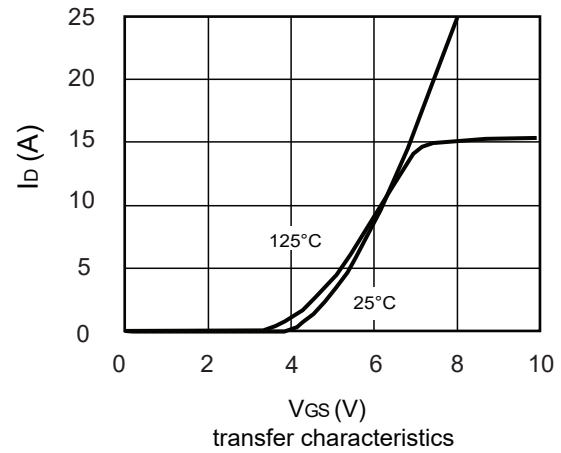
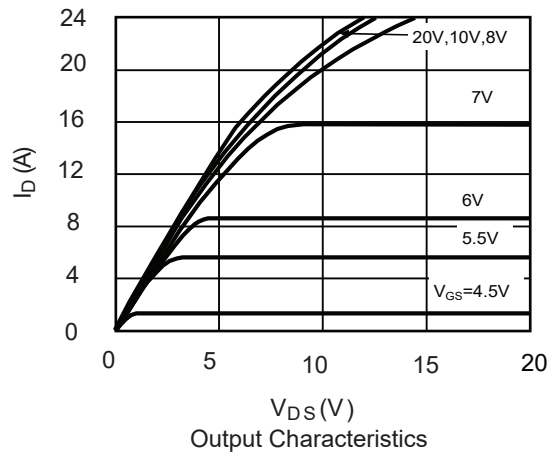
1.The EAS data shows Max. rating .The test condition is V_{DS}=80V , V_{GS}=10V , L=5mH , I_{AS}=5.5A.

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

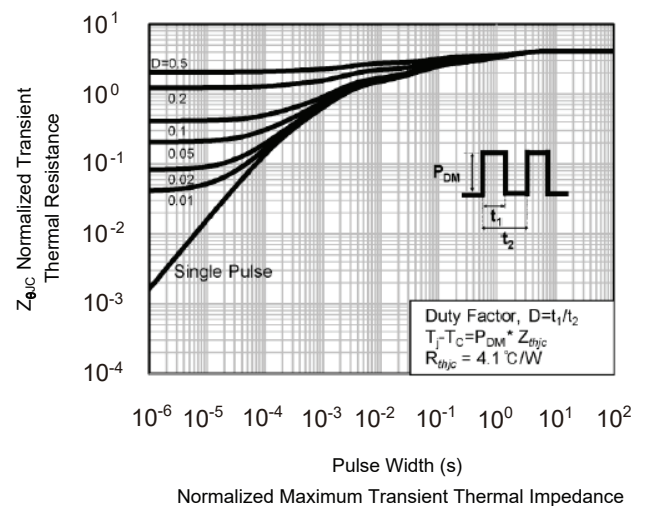
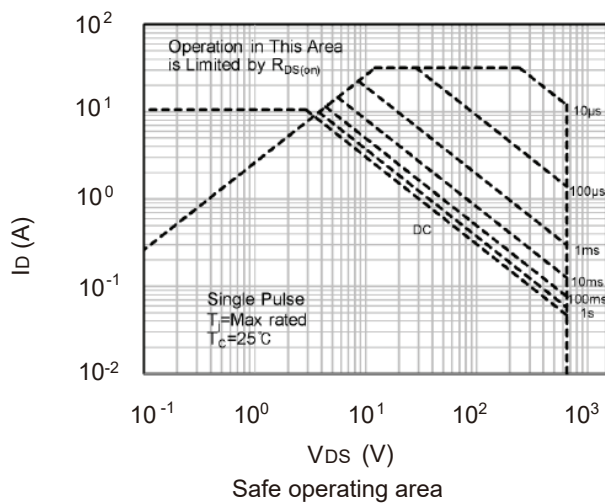
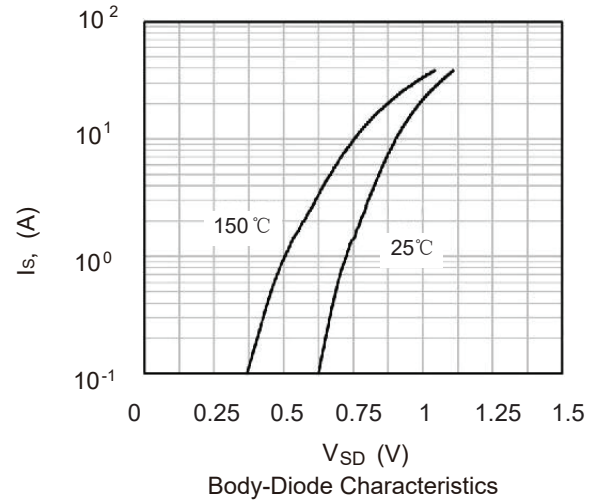
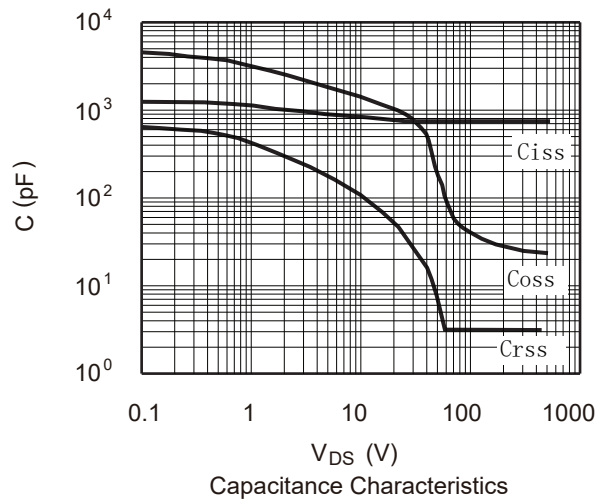
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Cmos reserver the right to improve product design ,functions and reliability wihtout notice.Please refer to the latest version of specification.

Typical Characteristics



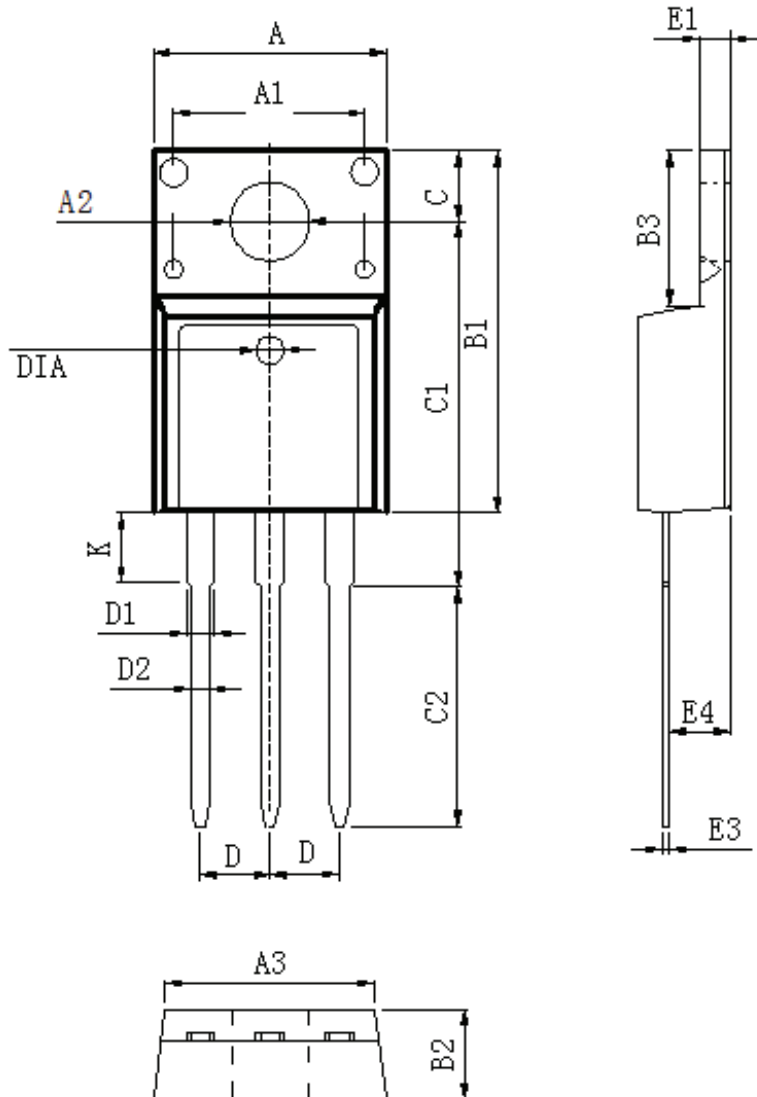
Typical Characteristics



Package Dimension

TO-220F

Unit :mm



DIM	MILLIMETERS
A	10.16 ± 0.3
A1	7.00 ± 0.1
A2	3.3 ± 0.2
A3	9.5 ± 0.2
B1	15.87 ± 0.3
B2	4.7 ± 0.2
B3	6.68 ± 0.4
C	3.3 ± 0.2
C1	12.57 ± 0.3
C2	10.02 ± 0.5
D	2.54 ± 0.05
D1	1.28 ± 0.2
D2	0.8 ± 0.1
K	3.1 ± 0.3
E1	2.54 ± 0.1
E3	0.5 ± 0.1
E4	2.76 ± 0.2
DIA	$\odot 1.5$ (deep 0.2)