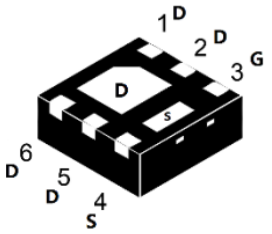
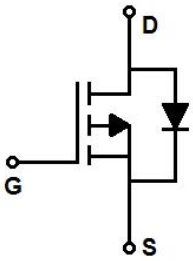
Description：

This P-Channel MOSFET uses advanced trench technology and design to provide excellent $R_{DS(on)}$ with low gate charge.

It can be used in a wide variety of applications.





Features：

1) V_{DS}=-30V,I_D=-12A,$R_{DS(ON)}$ <15mΩ @V_{GS}=-10V

2) Low gate charge.

3) Green device available.

4) Advanced high cell denity trench technology for ultra low $R_{DS(ON)}$.
Excellent package for good heat dissipation.

Package Marking and Ordering Information：

Part NO.	Marking	Package	Packing
RC015PG	C015P	DFN2*2-6	3000pcs/Reel

Absolute Maximum Ratings： (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Units
V_{DS}	Drain-Source Voltage	-30	V
V_{GS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current-T_A=25℃	-12	A
	Continuous Drain Current-T_A=100℃	-6.8	
I_{DM}	Pulsed Drain Current	-60	
P_D	Power Dissipation-T_A=25℃	3	W
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +150	℃

Thermal Characteristics：

Symbol	Parameter	Max	Units
$R_{\theta JA}$	Thermal Resistance,Junction to Ambient	41.7	℃/W

Electrical Characteristics: (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
BV_{DSS}	Drain-Sourtce Breakdown Voltage	V_{GS}=0V,I_D=250μA	-30	---	---	V
I_{DSS}	Zero Gate Voltage Drain Current	V_{GS}=0V, V_{DS}=-30V	---	---	-1	μA
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±20V, V_{DS}=0A	---	---	±100	nA
On Characteristics						
$V_{GS(th)}$	Gate-Source Threshold Voltage	V_{GS}=V_{DS}, I_D=250μA	-1.1	-1.5	-1.9	V
$R_{DS(ON)}$	Drain-Source On Resistance	V_{GS}=-10V,I_D=-8A	---	12	15	mΩ
		V_{GS}=-4.5V,I_D=-6A	---	15	23	
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS}=-15V, V_{GS}=0V, f=1MHz	---	1229	---	pF
C_{oss}	Output Capacitance		---	159	---	
C_{rss}	Reverse Transfer Capacitance		---	144	---	
Switching Characteristics						
$t_{d(on)}$	Turn-On Delay Time	V_{DD}=-15V R_{GEN}=3Ω, V_{GS}=-10V	---	17	---	ns
t_r	Rise Time		---	21	---	ns
$t_{d(off)}$	Turn-Off Delay Time		---	54	---	ns
t_f	Fall Time		---	41	---	ns
Q_g	Total Gate Charge	V_{GS}=-410V, V_{DS}=-15V, I_D=-10A	---	26.3	---	nC
Q_{gs}	Gate-Source Charge		---	5	---	nC
Q_{gd}	Gate-Drain “Miller” Charge		---	4.2	---	nC
Drain-Source Diode Characteristics						
V_{SD}	Diode Forward Voltage	V_{GS}=0V,I_S=-1A	---	-0.75	-1	V
Is	Diode Forward Current	V_D=V_G=0V	---	---	-12	A
Ism	Pulsed Source Current	V_D=V_G=0V	---	---	-60	A
Trr	Reverse Recovery Time	I_s=-10A , dI/dt=100A/μs , T_J=25℃	---	32	---	ns
Qrr	Reverse Recovery Charge		---	28	---	nC

Typical Characteristics: (T_A=25℃ unless otherwise noted)

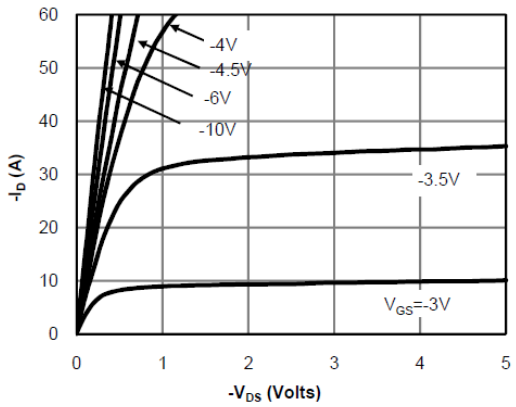


Figure 1. On-Regin Characteristics

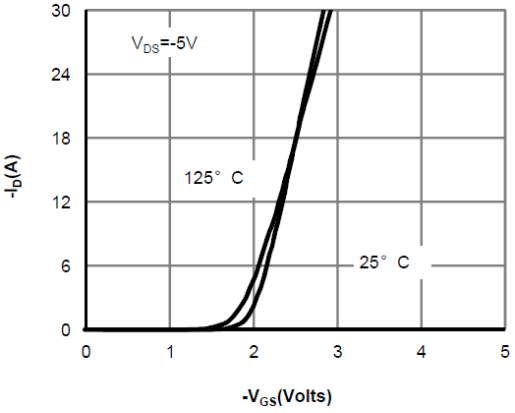


Figure 2. Transfer Characteristics

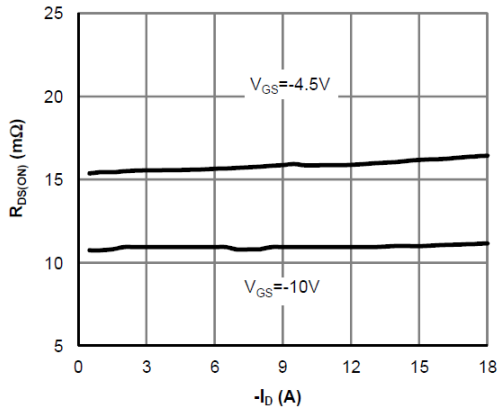


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

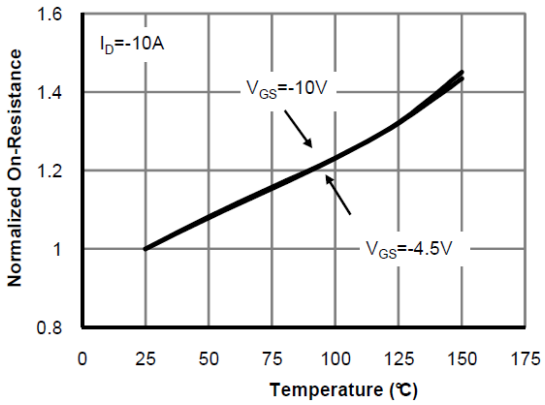


Figure 4. On-Resistance vs. Junction Temperature

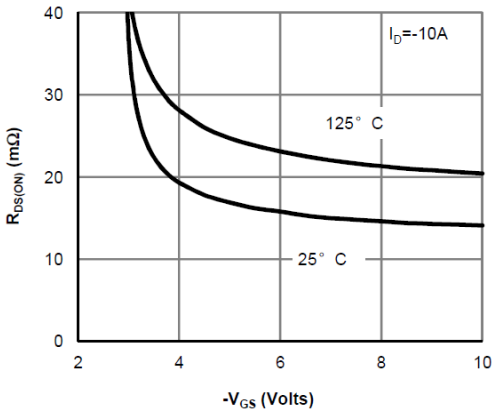


Figure 5. On-Resistance vs. Gate-Source Voltage

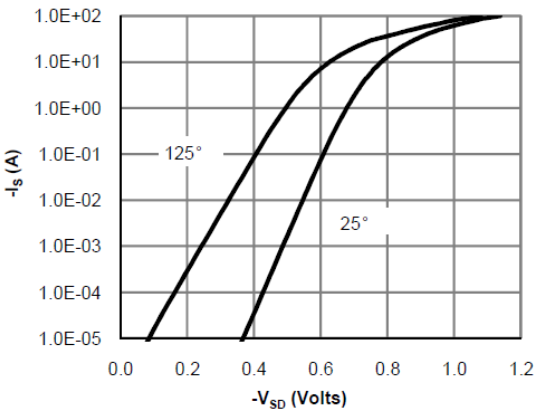


Figure 6. Body-Diode Characteristics

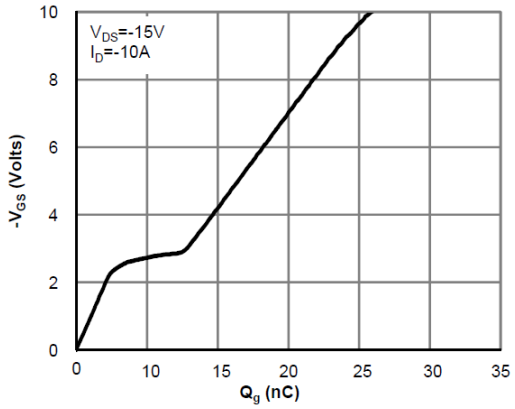


Figure 7. Gate-Charge Characteristics

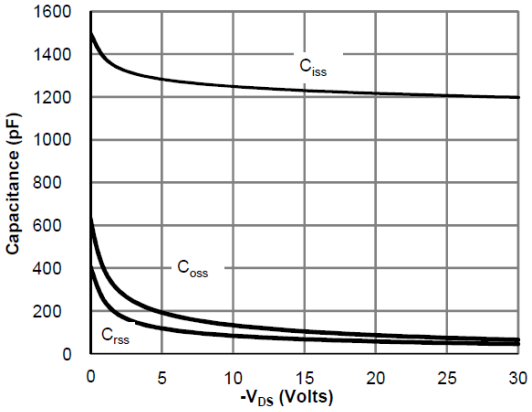


Figure 8. Capacitance Characteristics

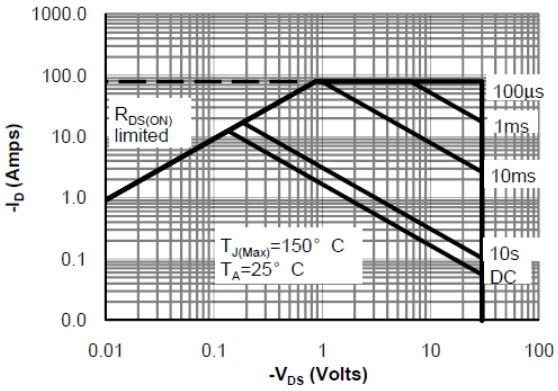


Figure 9. Maximum Forward Biased Safe Operating Area

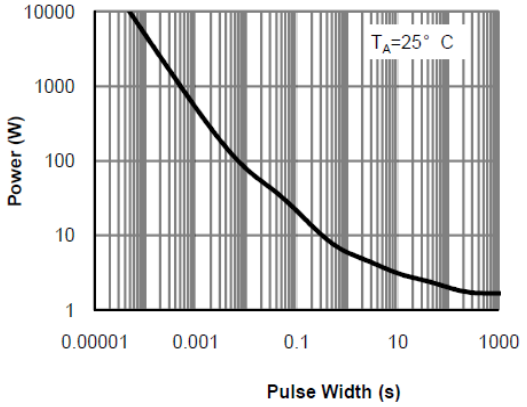


Figure 10. Single Pulse Power Rating Junction-to-Ambient

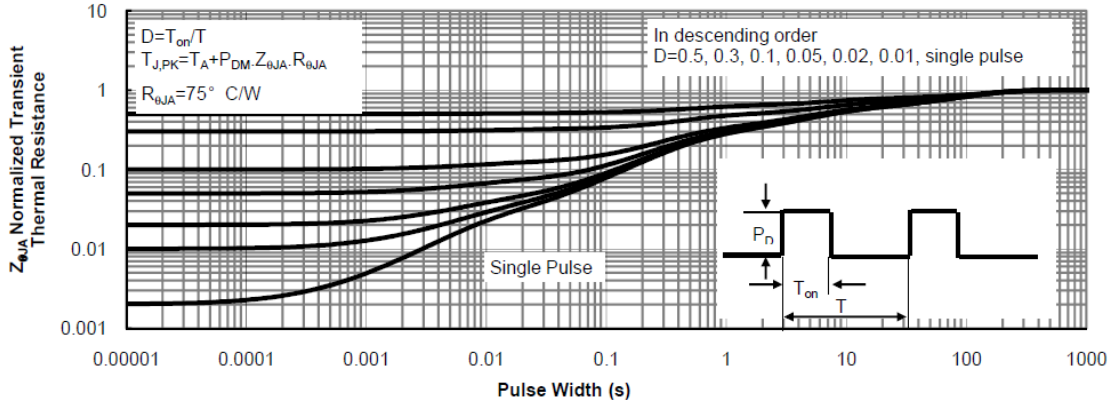
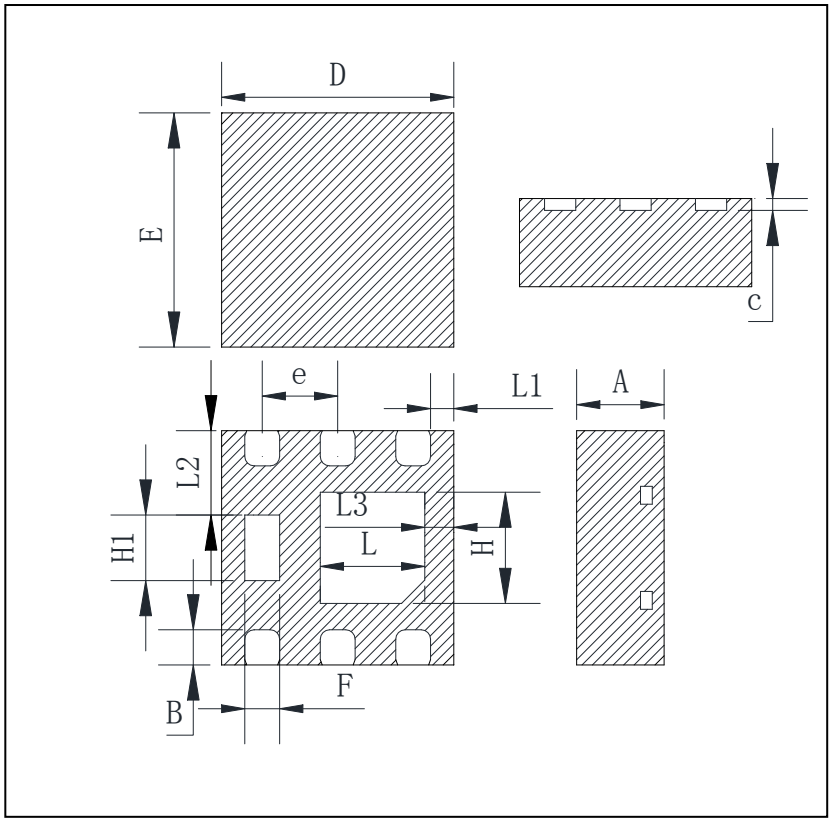


Figure 11. Normalized Maximum Transient Thermal Impedance

DFN2X2-6 Package Outline Data

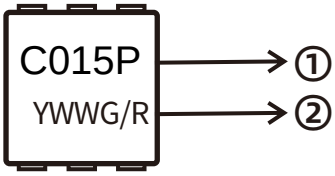


Symbol	Min	Typ	Max
A	0.70	0.75	0.80
B	0.25	0.30	0.35
C	0.153	0.203	0.253
D	1.90	2.00	2.10
E	1.90	2.00	2.10
e	0.60	0.65	0.70
F	0.25	0.30	0.35
H	0.90	1.00	1.10
H1	0.50	0.60	0.65
L	0.80	0.90	1.00
L1	0.15	0.20	0.25
L2	0.60	0.70	0.80
L3	0.25	0.30	0.35

UNIT: mm

Marking Information：

①: Part NO.
②: Date Code（YWWG / R）
Y: Year Code , last digit of the year
WW : Week Code（01-53）
G/R: G(Green) /R(Lead Free)



Previous Version

Version	Date	Subjects (major changes since last revision)
1.0	2024-07-08	Release of final version

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