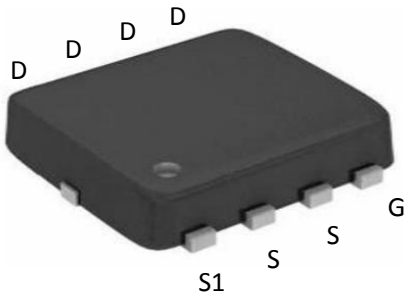
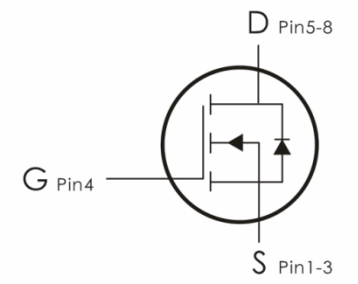
Description：

This N-Channel MOSFET uses advanced SGT to minimize on-state resistance, provide superior switching performance, and withstand high energy pulse in the avalanche and commutation mode. These devices are well suited for high efficiency fast switching applications.





Features：

1) V_{DS}=30V,I_D=30A,$R_{DS(ON)}$<5mΩ@V_{GS}=10V
2) Improved dv/dt capability
3) Fast switching
4) 100% EAS Guaranteed
5) Green Device Available.

Absolute Maximum Ratings： (T_C=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-Continuous (TC=25℃)[1]	30	A
I_{DM}	Drain Current – Pulsed	120	A
E_{AS}	Single Pulse Avalanche Energy	29	mJ
I_{AS}	Avalanche Current	17	A
P_D	Power Dissipation (TC=25℃)	37	W/℃
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +150	℃

Thermal Characteristics：

Symbol	Parameter	Max	Units
$R_{\theta JC}$	Thermal Resistance,Junction to Case	3.4	℃/W
$R_{\theta JA}$	Thermal Resistance,Junction to Ambient	62	

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Package Marking and Ordering Information：

Part NO.	Marking	Package
ZC005TG	C005T	DFN3*3-8

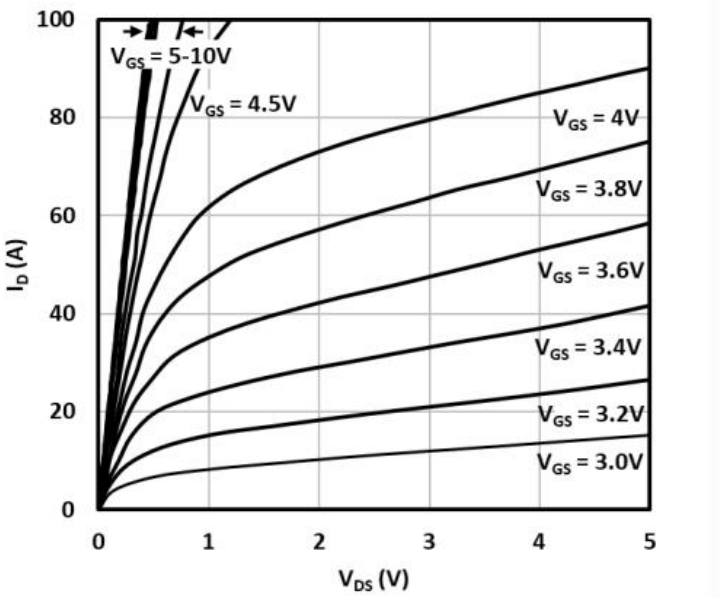
Electrical Characteristics： (T_C=25℃ unless otherwise noted)

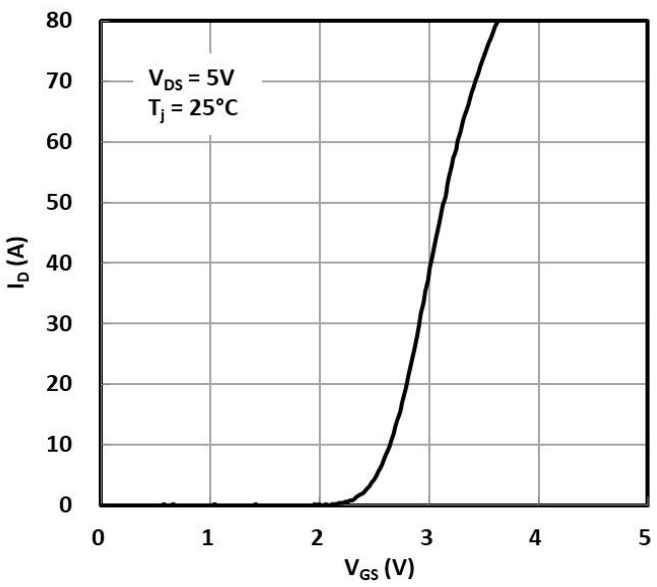
Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
BV_{DSS}	Drain-Sourtce Breakdown Voltage	V_{GS}=0V,I_D=250μA	30	---	---	V
I_{DSS}	Drain-Source Leakage Current	V_{GS}=0V, V_{DS}=30V, T_J=25℃	---	---	1	μA
I_{GSS}	Gate-Source Leakage Current	V_{GS}=±20V, V_{DS}=0A	---	---	±100	nA
On Characteristics						
$V_{GS(th)}$	GATE-Source Threshold Voltage	V_{GS}=V_{DS}, I_D=250μA	1.2	---	2.2	V
$R_{DS(ON)}$	Drain-Source On Resistance	V_{GS}=10V,I_D=20A	---	4.1	5	mΩ
		V_{GS}=4.5V,I_D=20A	---	6.5	8	
G_{FS}	Forward Transconductance	V_{DS}=5V,I_D=20A	---	85	---	S
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{DS}=15V, V_{GS}=0V, f=1MHz	---	960	---	pF
C_{oss}	Output Capacitance		---	410	---	
C_{rss}	Reverse Transfer Capacitance		---	60	---	
Switching Characteristics						
$t_{d(on)}$	Turn-On Delay Time	V_{DD}=15V , V_{GS}=10V , R_G=3Ω , I_D=15A	---	7	---	ns
t_r	Rise Time		---	2.8	---	ns
$t_{d(off)}$	Turn-Off Delay Time		---	21.4	---	ns
t_f	Fall Time		---	5.3	---	ns
Q_g	Total Gate Charge	V_{DS}=15V , V_{GS}=10V , I_D=20A	---	3.4	---	nC
Q_{gs}	Gate-Source Charge		---	3.1	---	nC
Q_{gd}	Gate-Drain “Miller” Charge		---	17.4	---	nC
Drain-Source Diode Characteristics						
V_{SD}	Source-Drain Diode Forward Voltage[2]	V_{GS}=0V , I_S=1A , T_J=25℃	---	0.7	---	V

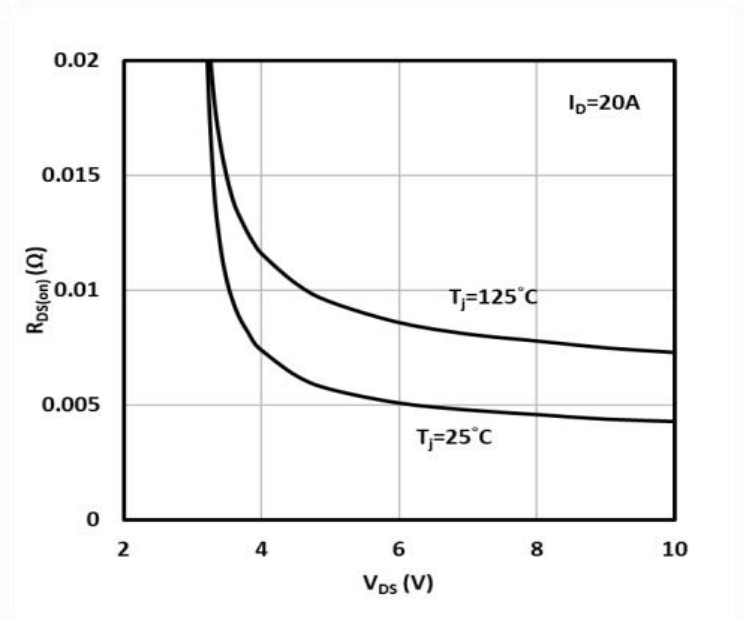
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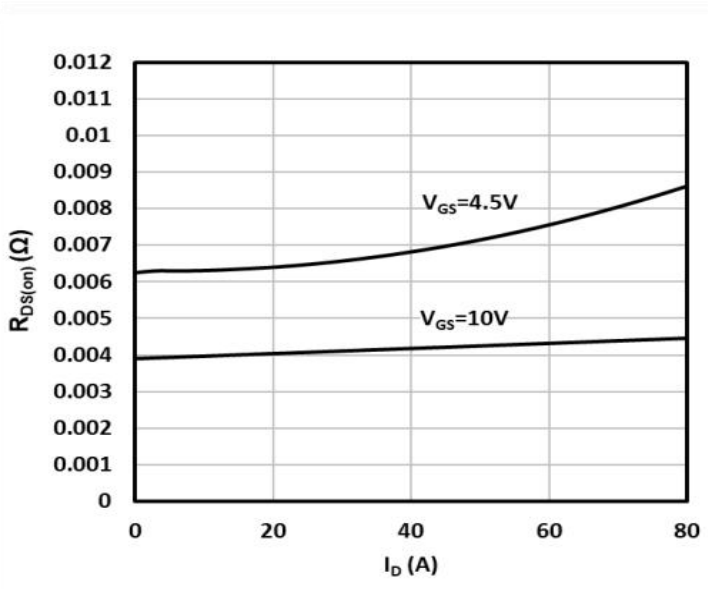
Trr	Reverse Recovery Time	I_S=20A, V_{GS}=0V, dIs/dt=100A/μS .	---	12.3	---	nS
Qrr	Reverse Recovery Charge		---	17.6	---	nC

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

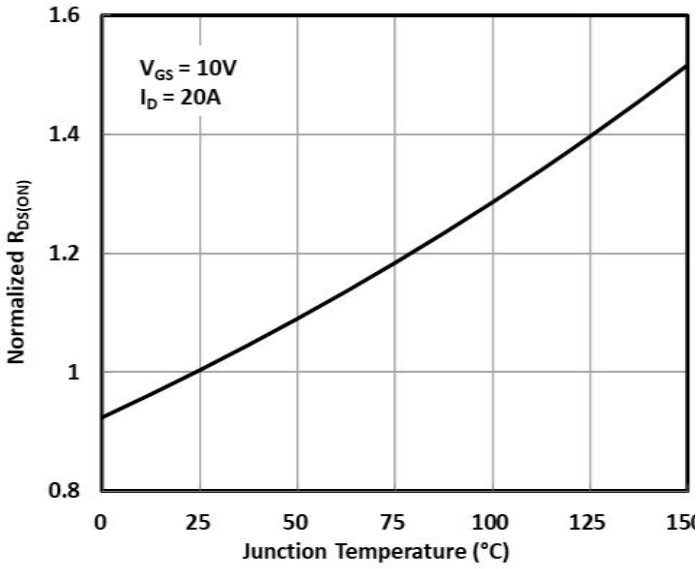


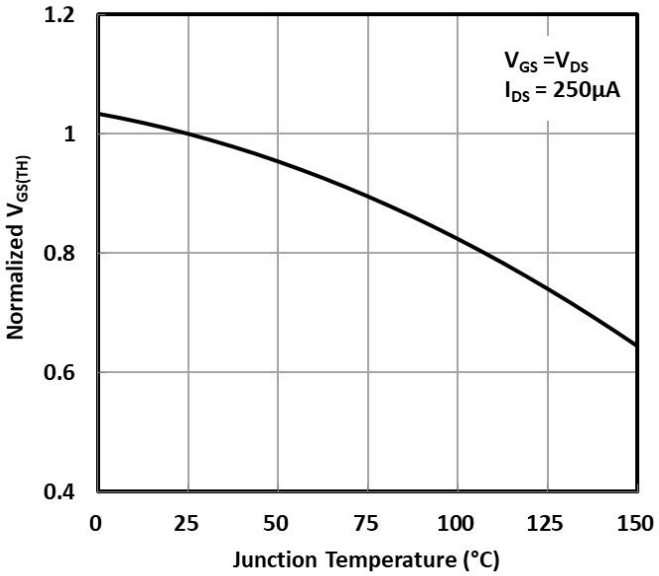


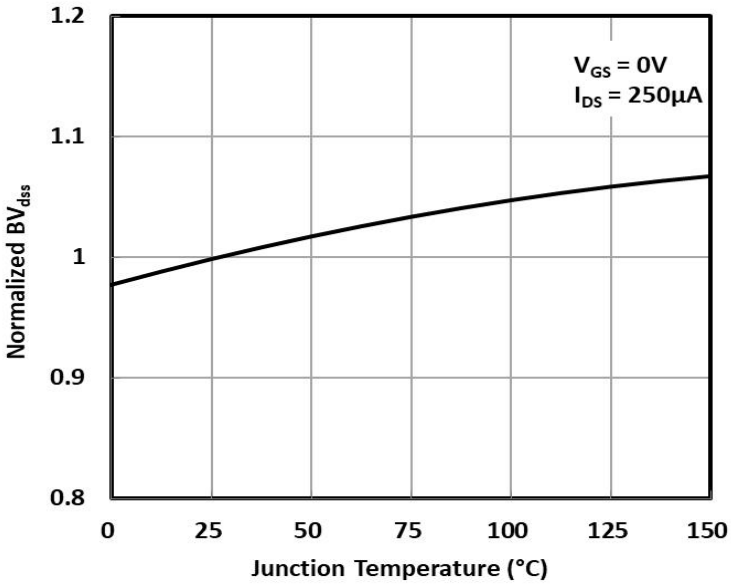


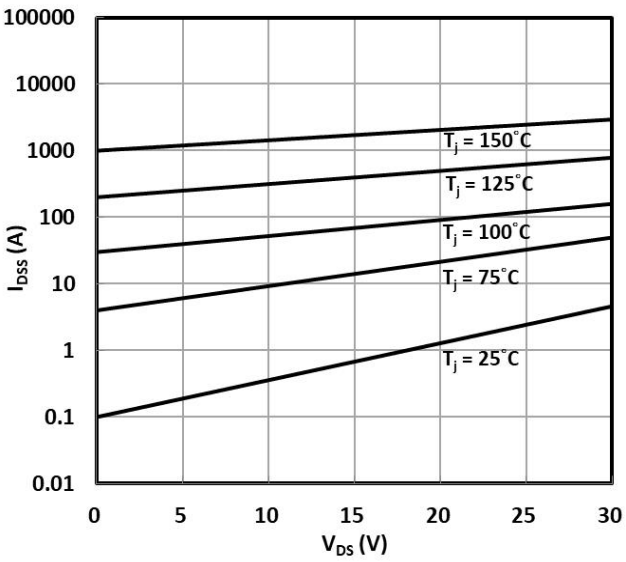


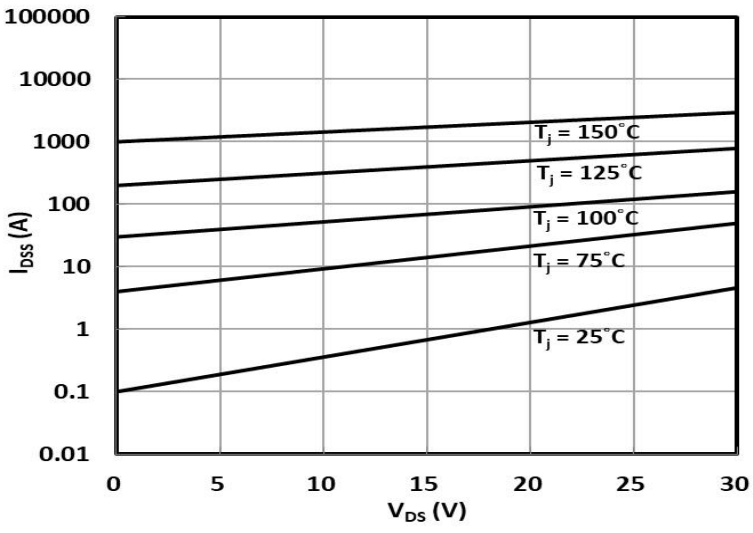
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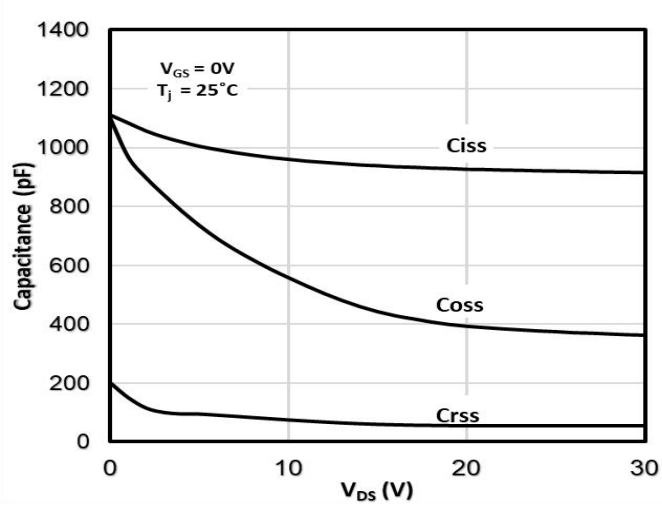




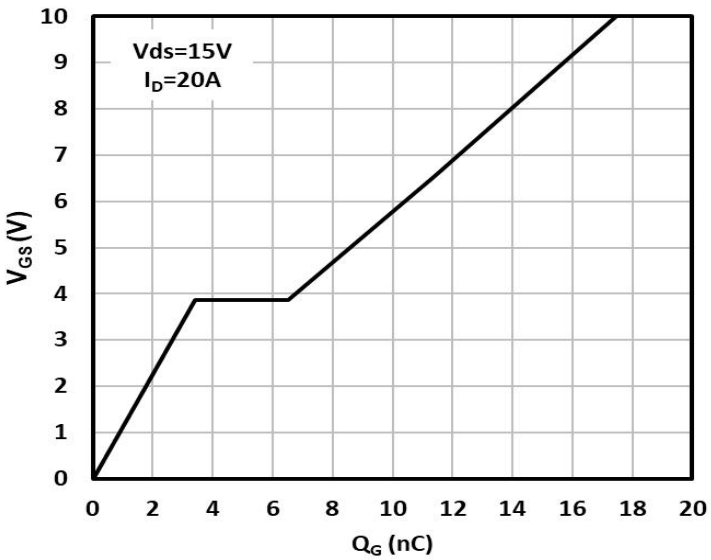


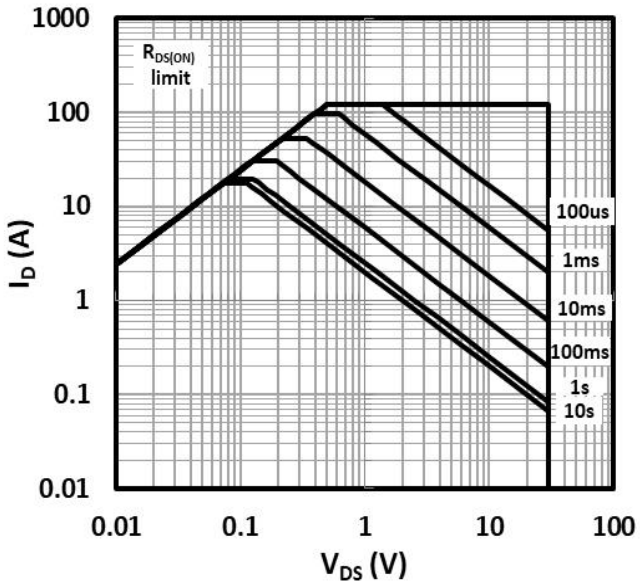


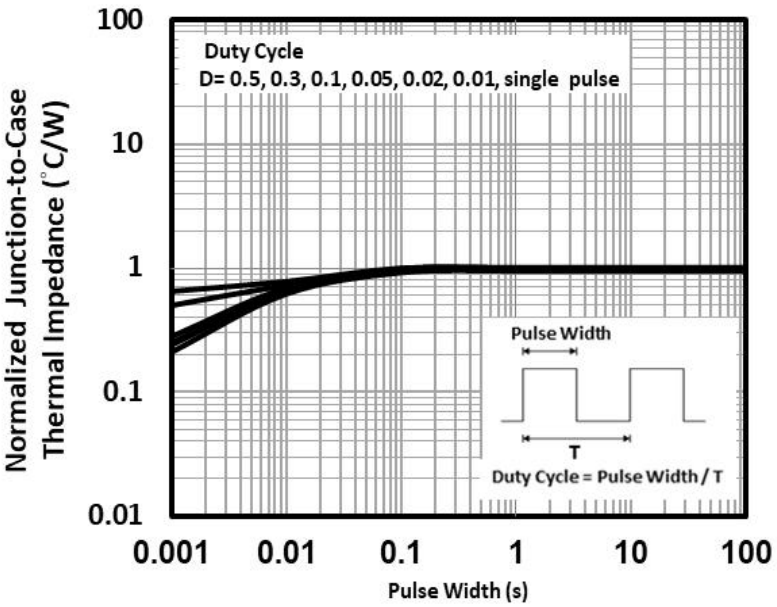


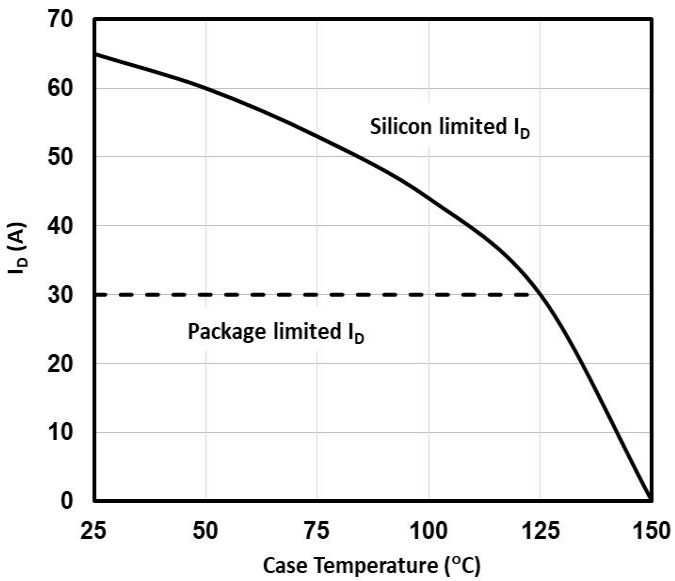


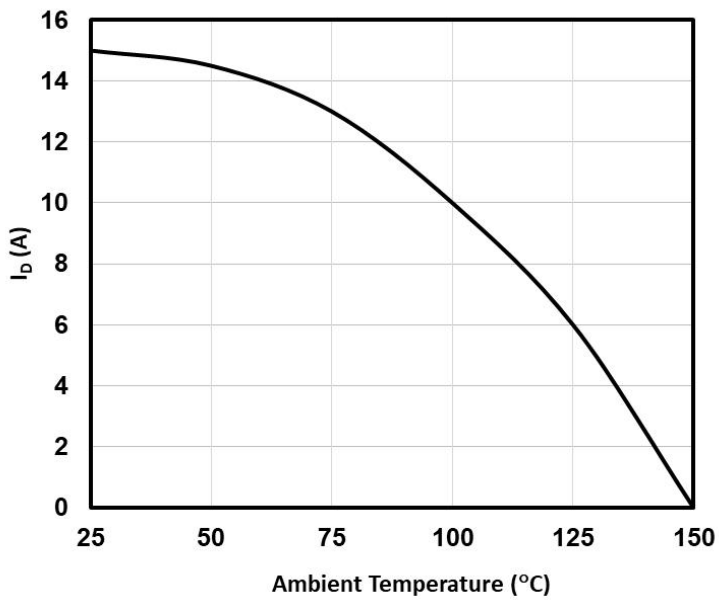
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