The GreenMOS®

at T_j=25°C unless otherwise noted

Drain-source voltage	V_{DS}	600	V
Gate-source voltage	V_{GS}	±30	V
Continuous drain current[1], T_C=25 °C	I_D	53	A
Continuous drain current[1], T_C=100 °C		33.3	
Pulsed drain current[2], T_C=25 °C	$I_{D, pulse}$	159	A
Continuous diode forward current[1], T_C=25 °C	I_S	53	A
Diode pulsed current[2], T_C=25 °C	$I_{S, pulse}$	159	A
Power dissipation[3], T_C=25 °C	P_D	390	W
Single pulsed avalanche energy[5]	E_{AS}	1200	mJ
MOSFET dv/dt ruggedness, V_{DS}=0…480 V	dv/dt	50	V/ns
Reverse diode dv/dt, V_{DS}=0…480 V, I_{SD}≤I_D	dv/dt	15	V/ns
Operation and storage temperature	T_{stg}, T_j	-55 to 150	°C

Thermal resistance, junction-case	$R_{\theta JC}$	0.32	°C/W
Thermal resistance, junction-ambient[4]	$R_{\theta JA}$	62	°C/W

at T_j=25°C unless otherwise specified

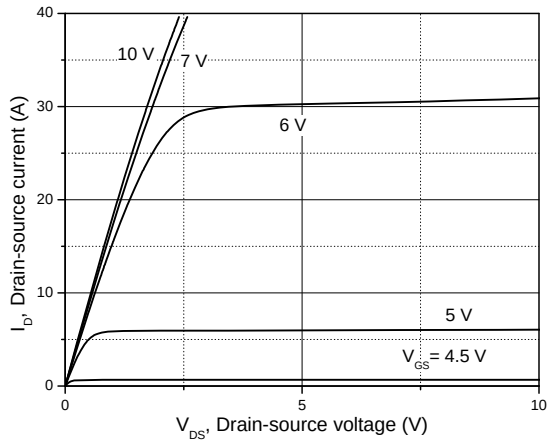
Drain-source breakdown voltage	BV_{DSS}	600			V	V_{GS}=0 V, I_D=1 mA
		650				V_{GS}=0 V, I_D=1 mA, T_j=150 °C
Gate threshold voltage	$V_{GS(th)}$	2.0		4.0	V	V_{DS}=V_{GS}, I_D=1 mA
Drain-source on-state resistance	$R_{DS(ON)}$		0.055	0.069	Ω	V_{GS}=10 V, I_D=26.5 A
			0.135			V_{GS}=10 V, ID=26.5 A, T_j=150 °C
Gate-source leakage current	I_{GSS}			100	nA	V_{GS}=30 V
				-100		V_{GS}=-30 V
Drain-source leakage current	I_{DSS}			1	μA	V_{DS}=600 V, V_{GS}=0 V

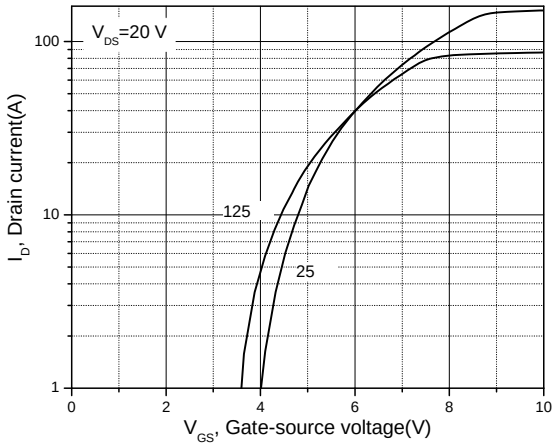
Input capacitance	C_{iss}		4321		pF	V_{GS}=0 V, V_{DS}=50 V, f=200 KHz
Output capacitance	C_{oss}		283.3		pF	
Reverse transfer capacitance	C_{rss}		5.2		pF	
Turn-on delay time	$t_{d(on)}$		89.7		ns	V_{GS}=10 V, V_{DS}=400 V, R_G=25 Ω, I_D=30 A
Rise time	t_r		104.4		ns	
Turn-off delay time	$t_{d(off)}$		143.6		ns	
Fall time	t_f		73.2		ns	

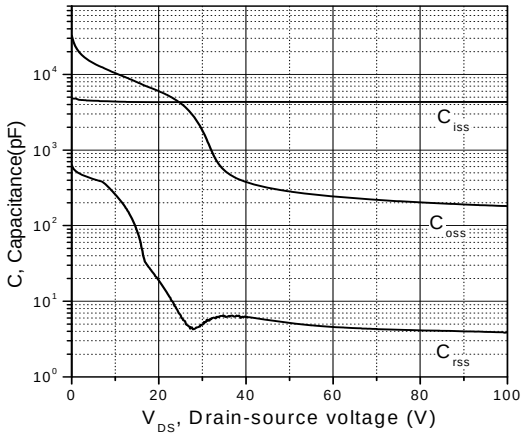
Total gate charge	Q_g		60.5		nC	V_{GS}=10 V, V_{DS}=400 V, I_D=30 A
Gate-source charge	Q_{gs}		20.1		nC	
Gate-drain charge	Q_{gd}		16.3		nC	
Gate plateau voltage	$V_{plateau}$		5.6		V	

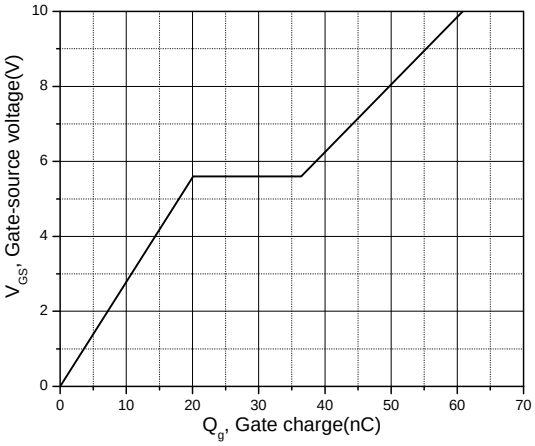
Diode forward voltage	V_{SD}			1.3	V	I_S=53 A, V_{GS}=0 V
Reverse recovery time	t_{rr}		532		ns	V_R=400 V, I_S=30 A, di/dt=100 A/μs
Reverse recovery charge	Q_{rr}		10.5		μC	
Peak reverse recovery current	I_{rrm}		36.1		A	

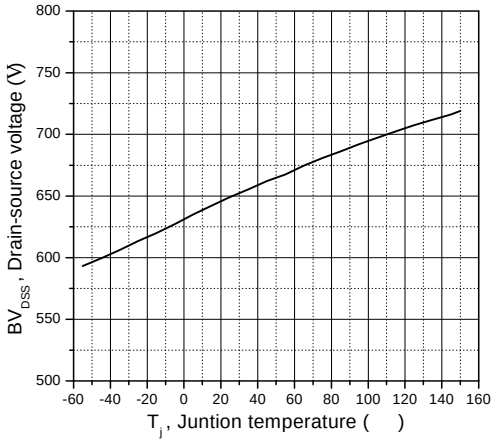
1) Calculated continuous current based on maximum allowable junction temperature.
2) Repetitive rating; pulse width limited by max. junction temperature.
3) Pd is based on max. junction temperature, using junction-case thermal resistance.
4) The value of $R_{\theta JA}$ is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with T_a=25 °C.
5) V_{DD}=100 V, V_{GS}=10 V, L=80 mH, starting T_j=25 °C.

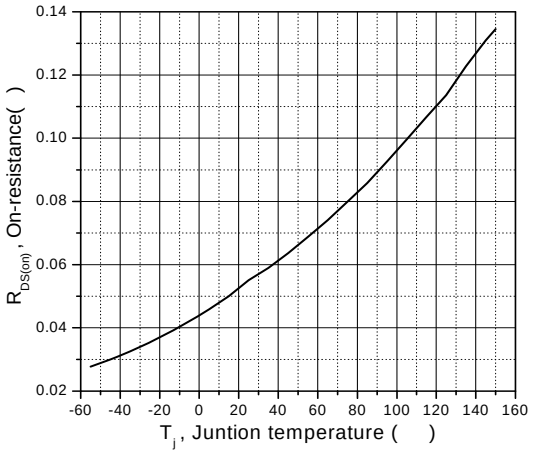


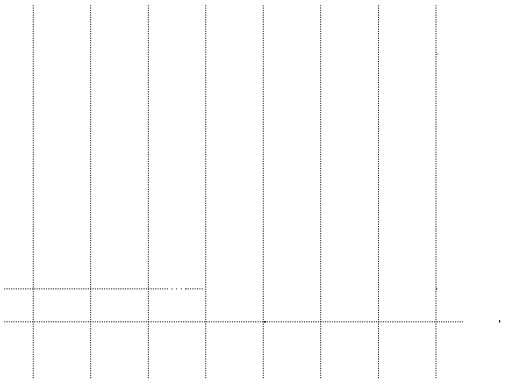


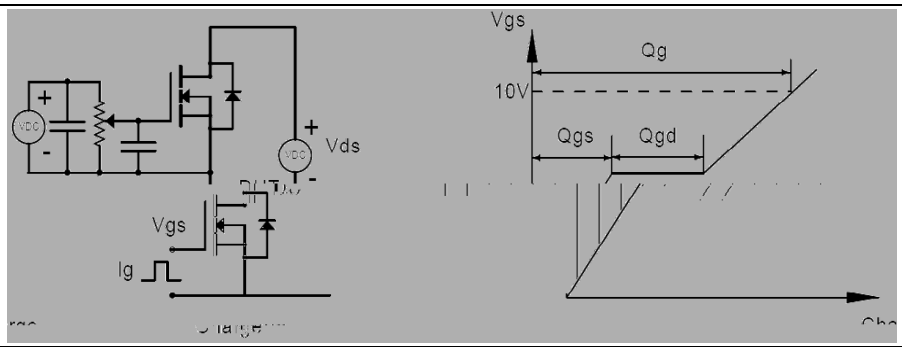


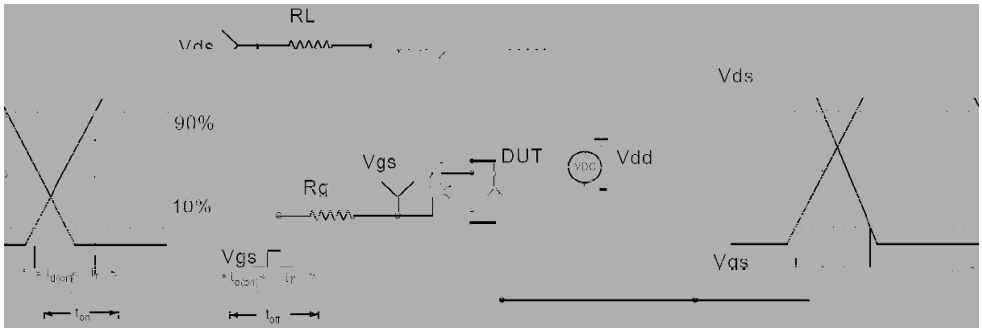


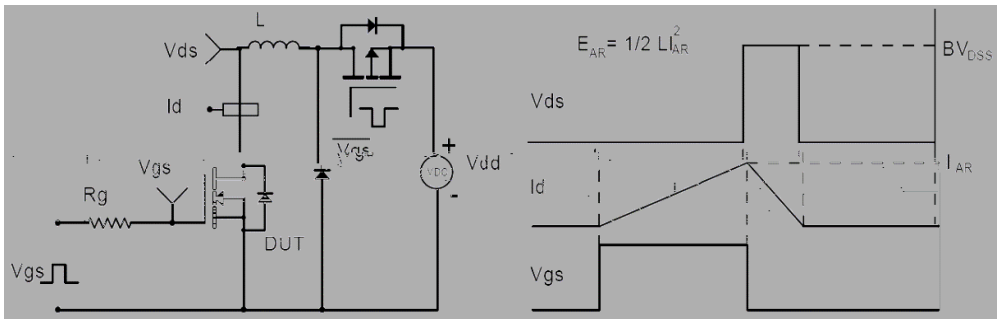


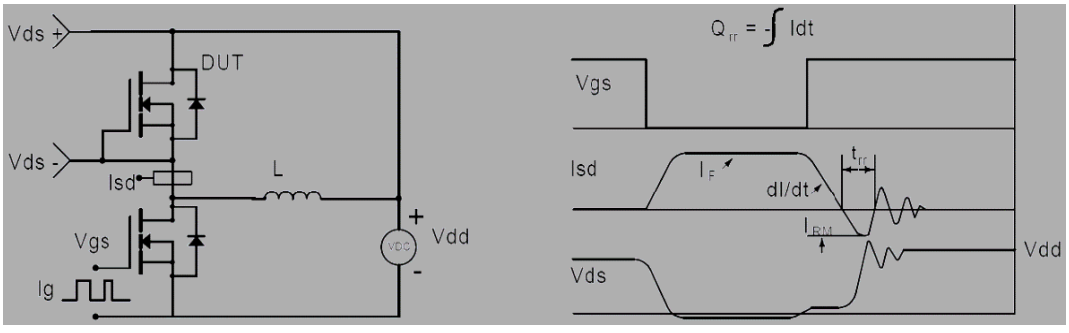












k TO247-C TOΘ23- ń