The GreenMOS®

at T_j=25°C unless otherwise noted

Drain-source voltage	V_{DS}	550	V
Gate-source voltage	V_{GS}	±30	V
Continuous drain current[1], T_C=25 °C	I_D	11	A
Continuous drain current[1], T_C=100 °C		7	
Pulsed drain current[2], T_C=25 °C	$I_{D, pulse}$	33	A
Continuous diode forward current[1], T_C=25 °C	I_S	11	A
Diode pulsed current[2], T_C=25 °C	$I_{S, pulse}$	33	A
Power dissipation[3], T_C=25 °C	P_D	63	W
Single pulsed avalanche energy[5]	E_{AS}	200	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	$R_{\theta JC}$	1.98	°C/W
Thermal resistance, junction-ambient[4]	$R_{\theta JA}$	62	°C/W

at T_j=25°C unless otherwise specified

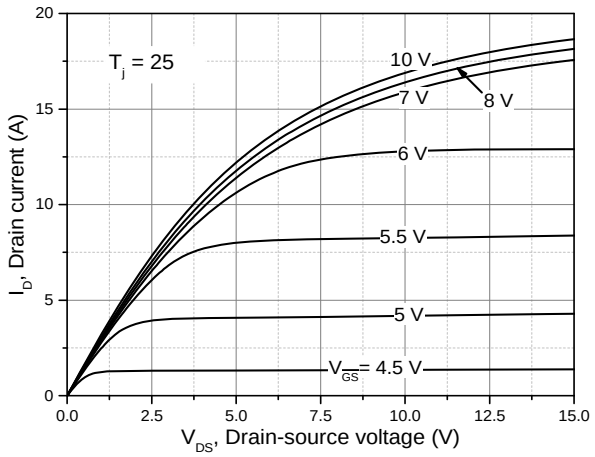
Drain-source breakdown voltage	BV_{DSS}	550			V	V_{GS}=0 V, I_D=250 uA
		600				V_{GS}=0 V, I_D=250 uA, T_j=150 °C
Gate threshold voltage	$V_{GS(th)}$	2.0		4.0	V	V_{DS}=V_{GS}, I_D=250 uA
Drain-source on-state resistance	$R_{DS(ON)}$		0.30	0.38	Ω	V_{GS}=10 V, I_D=5.5 A
			0.79			V_{GS}=10 V, I_D=5.5 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}=550 V, V_{GS}=0 V

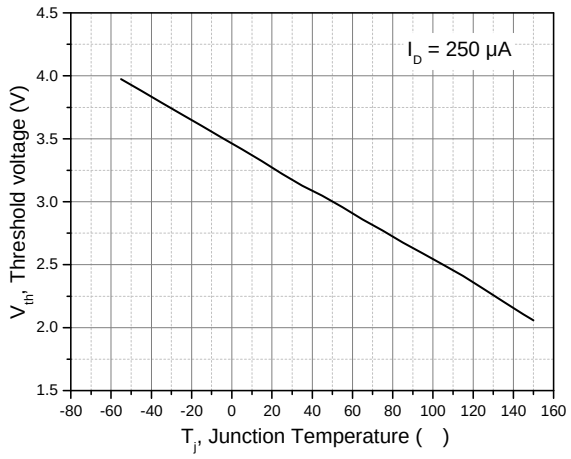
Input capacitance	C_{iss}		549.3		pF	V_{GS}=0 V, V_{DS}=50 V, f=1 MHz
Output capacitance	C_{oss}		63.1		pF	
Reverse transfer capacitance	C_{rss}		2.1		pF	
Turn-on delay time	$t_{d(on)}$		28		ns	V_{GS}=10 V, V_{DS}=400 V, R_G=2 Ω, I_D=6 A
Rise time	t_r		22.8		ns	
Turn-off delay time	$t_{d(off)}$		60.3		ns	
Fall time	t_f		18		ns	

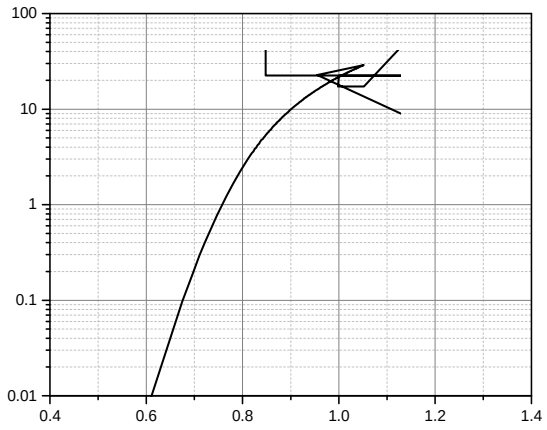
Total gate charge	Q_g		12.5		nC	V_{GS}=10 V, V_{DS}=400 V, I_D=6 A
Gate-source charge	Q_{gs}		2.6		nC	
Gate-drain charge	Q_{gd}		5.7		nC	
Gate plateau voltage	$V_{plateau}$		5.8		V	

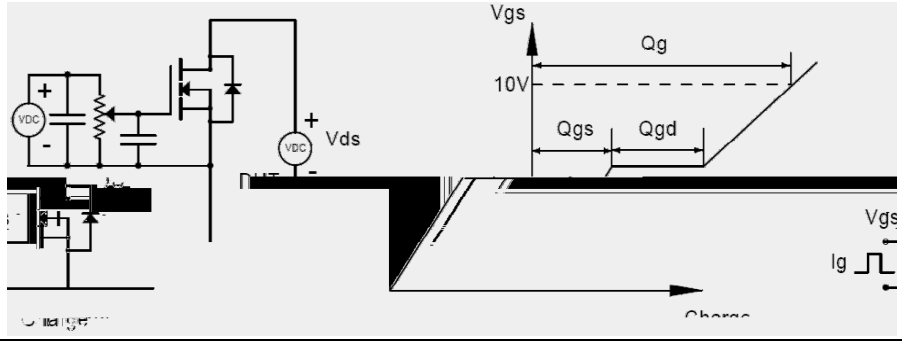
Diode forward voltage	V_{SD}			1.3	V	I_S=11 A, V_{GS}=0 V
Reverse recovery time	t_{rr}		199		ns	V_R=400 V, I_S=6 A, di/dt=100 A/μs
Reverse recovery charge	Q_{rr}		1.7		μC	
Peak reverse recovery current	I_{rrm}		17.4		A	

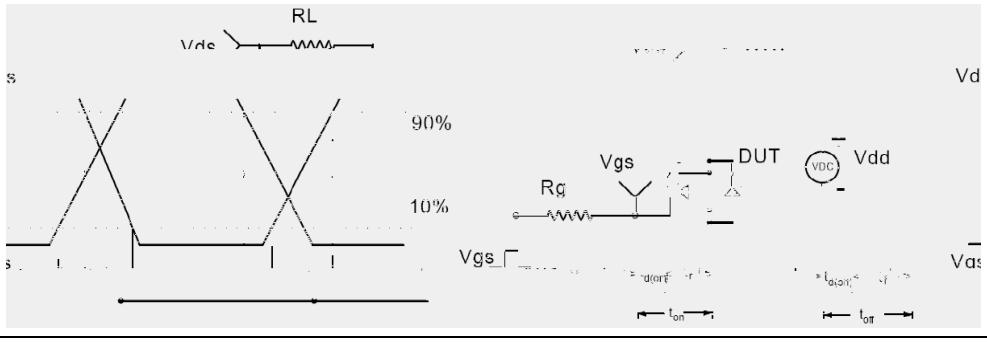
1) Calculated continuous current based on maximum allowable junction temperature.
2) Repetitive rating; pulse width limited by max. junction temperature.
3) Pd is based on max. junction temperature, using junction-case thermal resistance.
4) The value of $R_{\theta JA}$ is measured with the device mounted 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=10 mH, starting T_j=25 °C.

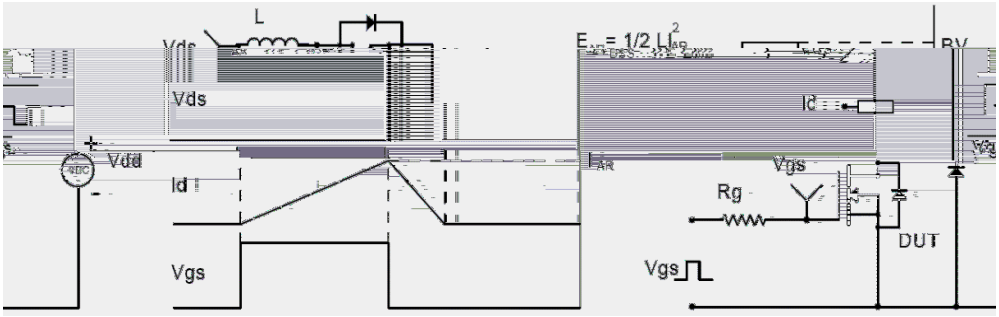


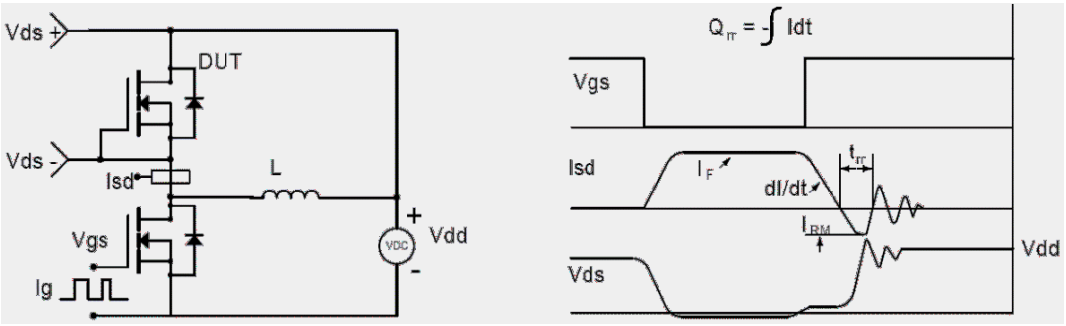


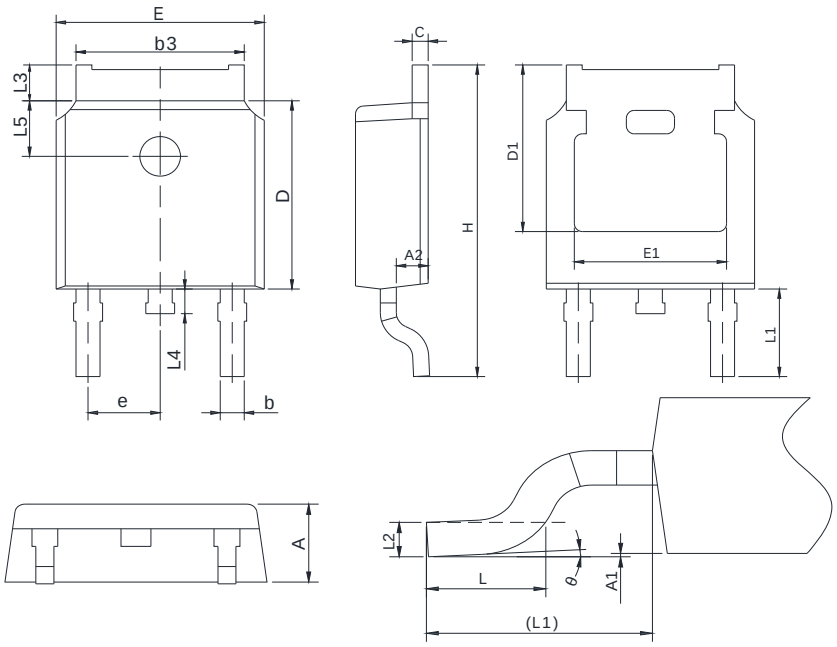



Vgs
Qg
10V
Qgs
Qgd
Vds
Vgs
Ig


RL
90%
10%
Vgs
DUT
Rg
Vdd

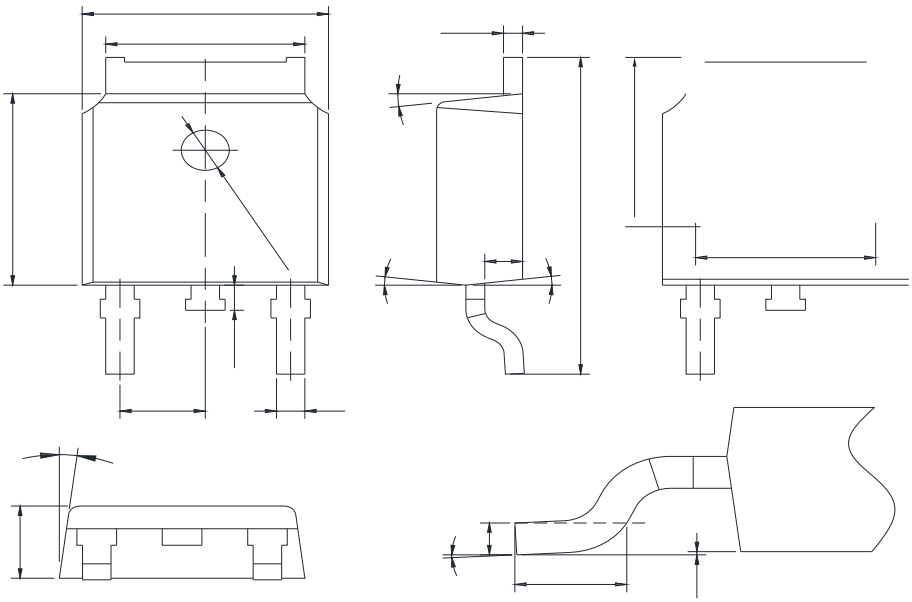

L
Vds
Vdd
Id
Vgs
Rg
DUT


Vds +
DUT
Vds -
Isd
L
Vgs
Vdd
Ig
Vgs
Isd
dI/dt
Vds
Vdd



Symbol	mm		
	Min	Nom	Max
A	2.20	2.30	2.38
A1	0.00	-	0.20
A2	0.97	1.07	1.17
b	0.68	0.78	0.90
b3	5.20	5.33	5.46
c	0.43	0.53	0.61
D	5.98	6.10	6.22
D1	5.30REF		
E	6.40	6.60	6.73
E1	4.63	-	-
e	2.286BSC		
H	9.40	10.10	10.50
L	1.38	1.50	1.75
L1	2.90REF		
L2	0.51BSC		
L3	0.88	-	1.28
L4	0.50	-	1.00
θ	0°	-	8°

Version 1: TO252-C package outline dimension



Symbol	mm		
	Min	Nom	Max
A	2.20	2.30	2.38
A1	0.00	-	0.10
A2	0.90	1.01	1.10
b	0.72	-	0.85
b1	0.71	0.76	0.81
b2	0.72	-	0.90
b3	5.13	5.33	5.46
c	0.47	-	0.60
c1	0.46	0.51	0.56
c2	0.47	-	0.60
D	6.00	6.10	6.20
D1	5.25	-	-
E	6.50	6.60	6.70
E1	4.70	-	-
e	2.186	2.286	2.386
H	9.80	10.10	10.40
L	1.40	1.50	1.70
L1	2.90REF		
L2	0.508BSC		
L3	0.90	-	1.25
L4	0.60	0.80	1.00
L5	0.15	-	0.75
L6	1.80REF		
θ	0°	-	8°
θ1	5°	7°	9°
θ2	5°	7°	9°

Version 2: TO252-J package outline dimension

TO252-C	2500	2	5000	5	25000
TO252-J	2500	2	5000	5	25000

OSG55R380DF	TO252	yes	yes	yes

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