

The GreenMOS®

at $T_j=25^\circ\text{C}$ unless otherwise noted

Drain-source voltage	V_{DS}	550	V
Gate-source voltage	V_{GS}	± 30	V
Continuous drain current ¹⁾ , $T_C=25^\circ\text{C}$	I_D	47	A
Continuous drain current ¹⁾ , $T_C=100^\circ\text{C}$		30	
Pulsed drain current ²⁾ , $T_C=25^\circ\text{C}$	$I_{D, pulse}$	141	A
Continuous diode forward current ¹⁾ , $T_C=25^\circ\text{C}$	I_S	47	A
Diode pulsed current ²⁾ , $T_C=25^\circ\text{C}$	$I_{S, pulse}$	141	A
Power dissipation ³⁾ , $T_C=25^\circ\text{C}$	P_D	278	W
Single pulsed avalanche energy ⁵⁾	E_{AS}	1000	mJ
MOSFET dv/dt ruggedness, $V_{DS}=0\dots 480\text{ V}$	dv/dt	50	V/ns
Reverse diode dv/dt, $V_{DS}=0\dots 480\text{ V}$, $I_{SD} = I_D$	dv/dt	15	V/ns
Operation and storage temperature	T_{stg}, T_j	-55 to 150	$^\circ\text{C}$

Thermal resistance, junction-case	R_{JC}	0.45	$^\circ\text{C/W}$
Thermal resistance, junction-ambient ⁴⁾	R_{JA}	62	$^\circ\text{C/W}$

 at $T_j=25^\circ\text{C}$ unless otherwise specified

Drain-source breakdown voltage	BV_{DSS}	550			V	$V_{GS}=0\text{ V}$, $I_D=1\text{ mA}$
		600	670			$V_{GS}=0\text{ V}$, $I_D=1\text{ mA}$, $T_j=150^\circ\text{C}$
Gate threshold voltage	$V_{GS(th)}$	2		4	V	$V_{DS}=V_{GS}$, $I_D=1\text{ mA}$
Drain-source on-state resistance	$R_{DS(ON)}$		0.06	0.07		$V_{GS}=10\text{ V}$, $I_D=23.5\text{ A}$
			0.14			$V_{GS}=10\text{ V}$, $I_D=23.5\text{ A}$, $T_j=150^\circ\text{C}$
Gate-source leakage current	I_{GSS}			100	nA	$V_{GS}=30\text{ V}$
				-100		$V_{GS}=-30\text{ V}$
Drain-source leakage current	I_{DSS}			1	μA	$V_{DS}=550\text{ V}$, $V_{GS}=0\text{ V}$

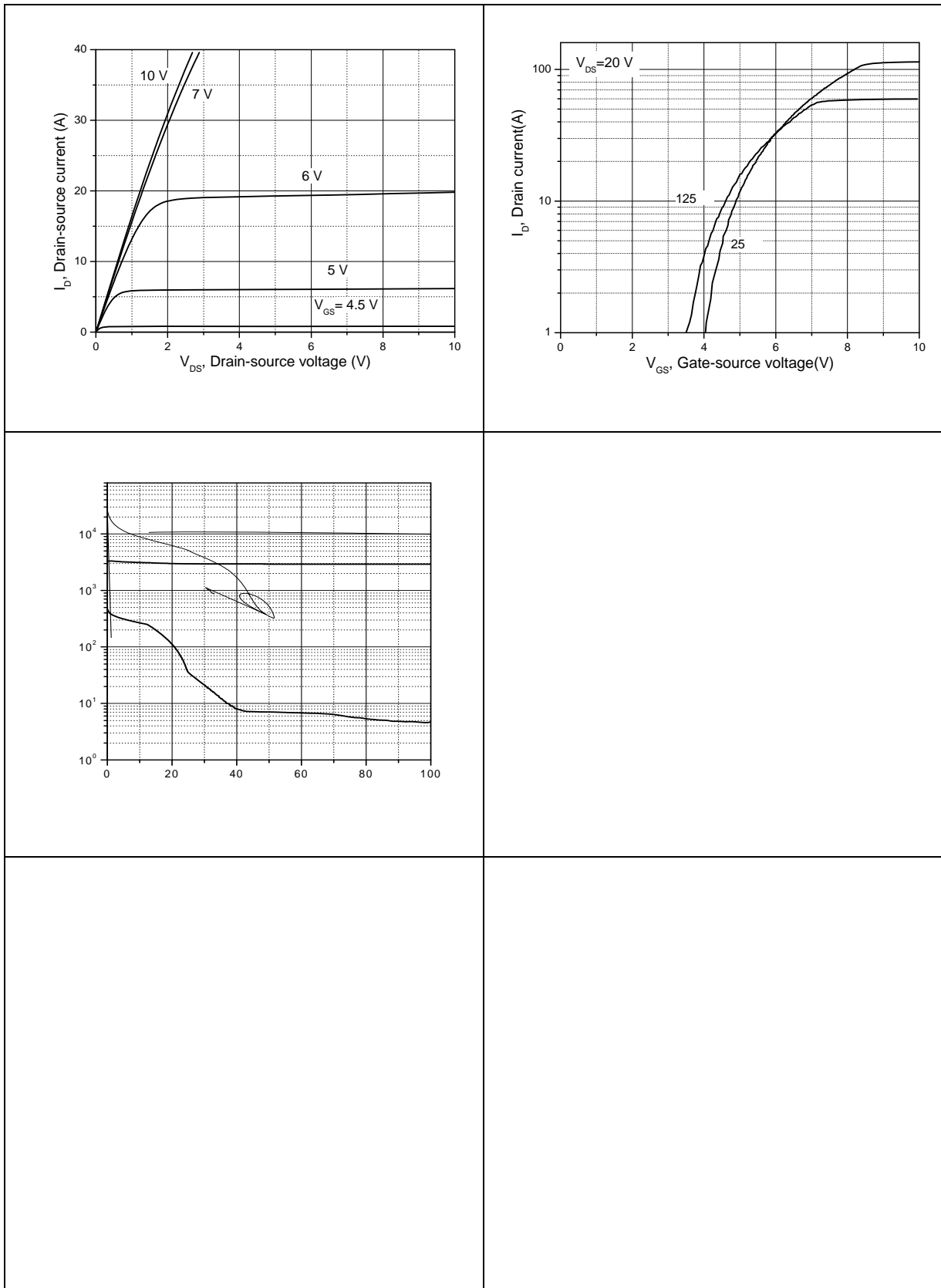


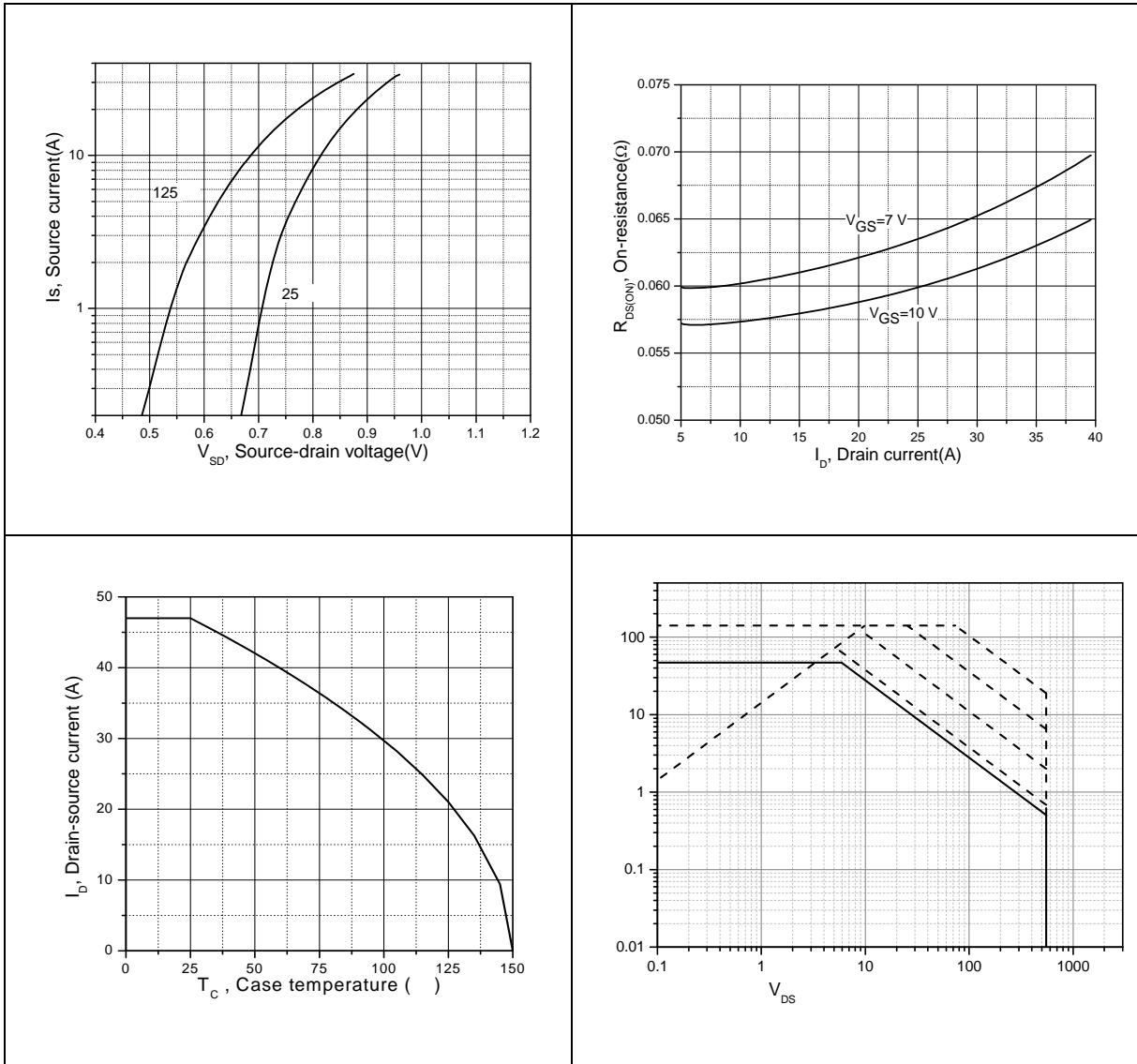
Input capacitance	C_{iss}	2933	pF	$V_{GS}=0\text{ V}$, $V_{DS}=50\text{ V}$, $f=1\text{ MHz}$
Output capacitance	C_{oss}	350.1	pF	
Reverse transfer capacitance	C_{rss}	7.04	pF	
Turn-on delay time	$t_{d(on)}$	66.8	ns	$V_{GS}=10\text{ V}$, $V_{DS}=400\text{ V}$, $R_G=25\ \Omega$, $I_D=25\text{ A}$
Rise time	t_r	76.2	ns	
Turn-off delay time	$t_{d(off)}$	138.7	ns	
Fall time	t_f	67.9	ns	

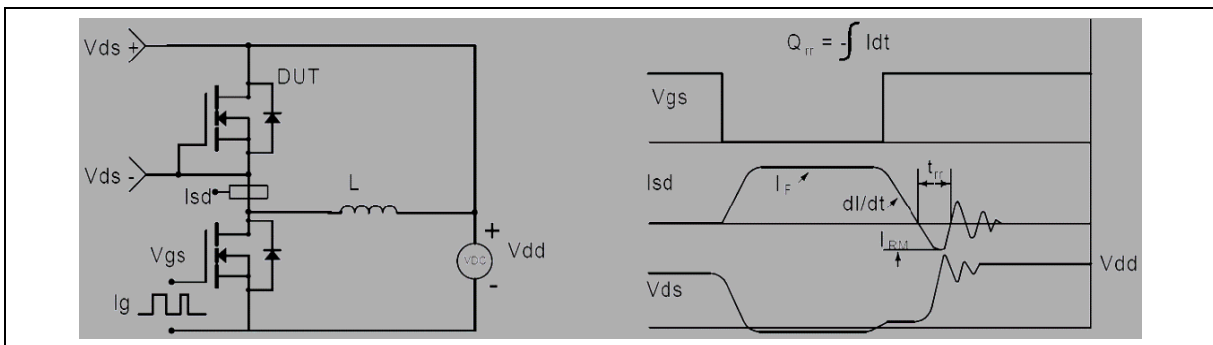
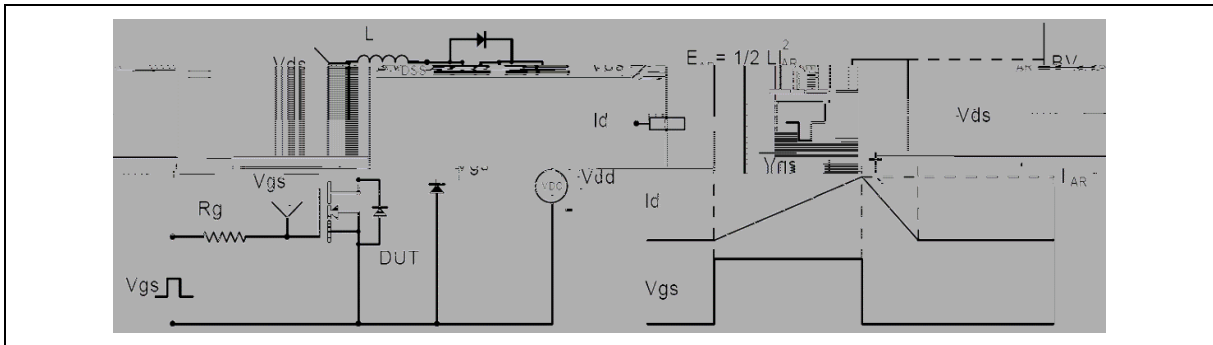
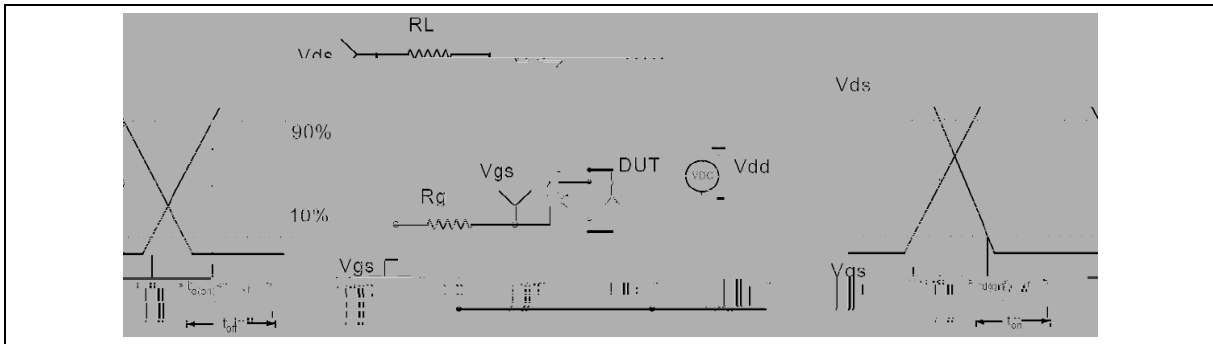
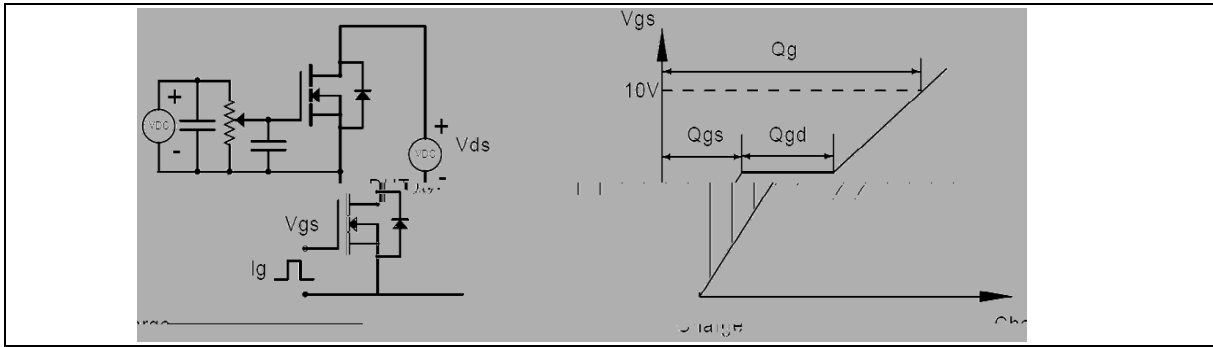
Total gate charge	Q_g	47	nC	$V_{GS}=10\text{ V}$, $V_{DS}=400\text{ V}$, $I_D=25\text{ A}$
Gate-source charge	Q_{gs}	12.2	nC	
Gate-drain charge	Q_{gd}	17.4	nC	
Gate plateau voltage	$V_{plateau}$	5.6	V	

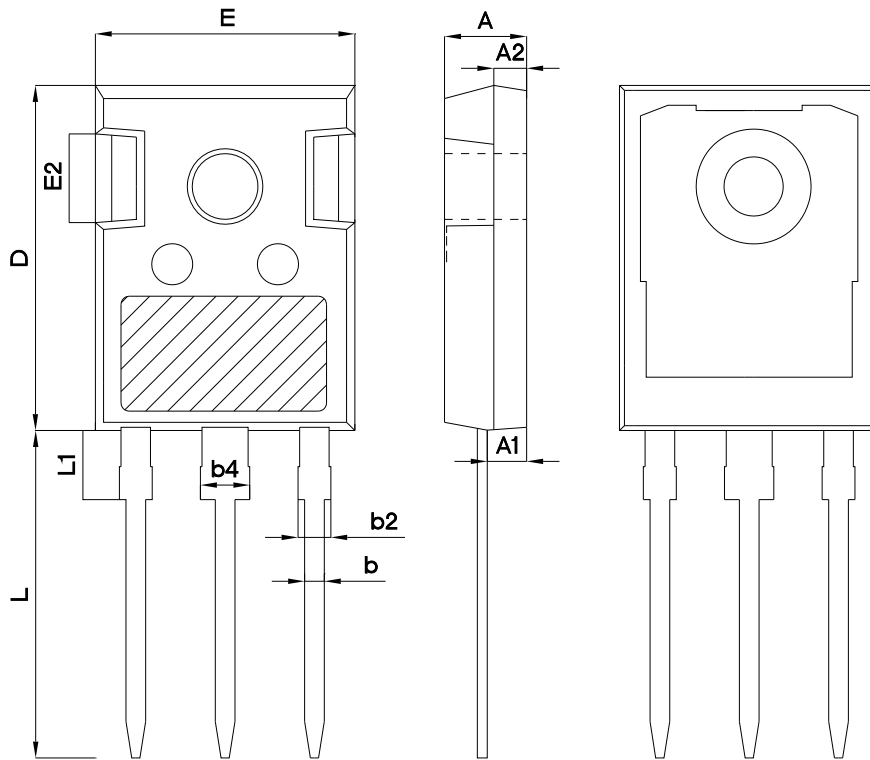
Diode forward voltage	V_{SD}	1.3	V	$I_S=47\text{ A}$, $V_{GS}=0\text{ V}$
Reverse recovery time	t_{rr}	454.8	ns	$V_R=400\text{ V}$, $I_S=25\text{ A}$, $di/dt=100\text{ A}/\mu\text{s}$
Reverse recovery charge	Q_{rr}	7.9	μC	
Peak reverse recovery current	I_{rrm}	32.1	A	

- 1) Calculated continuous current based on maximum allowable junction temperature.
- 2) Repetitive rating; pulse width limited by max. junction temperature.
- 3) P_d is based on max. junction temperature, using junction-case thermal resistance.
- 4) The value of R_{JA} is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with $T_a=25\text{ }^\circ\text{C}$.
- 5) $V_{DD}=100\text{ V}$, $V_{GS}=10\text{ V}$, $L=40\text{ mH}$, starting $T_j=25\text{ }^\circ\text{C}$.









Symbol	mm		
	Min	Nom	Max
A	4.80	5.00	5.20
A1	2.21	2.41	2.59
A2	1.85	2.00	2.15
b	1.11	1.21	1.36
b2	1.91	2.01	2.21
b4	2.91	3.01	3.21
c	0.51	0.61	0.75
D	20.80	21.00	21.30
D1	16.25	16.55	16.85
E	15.50	15.80	16.10
E1	13.00	13.30	13.60
E2	4.80	5.00	5.20
E3	2.30	2.50	2.70
e	5.44 BSC		
L	19.82	19.92	20.22
L1	-	-	4.30
P	3.40	3.60	3.80
P1	-	-	7.30
S	6.15 BSC		

Version 1; TO247-C package outline dimension



TO247-C	30	11	330	6	1980

OSG55R070HF	TO247	yes	yes	yes

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