The GreenMOS® high voltage MOSFET utilizes charge balance technology to achieve outstanding low on-resistance and lower gate charge. It is engineered to minimize conduction loss, provide superior switching performance and robust avalanche capability.
The GreenMOS® Generic series is optimized for extreme switching performance to minimize switching loss. It is tailored for high power density applications to meet the highest efficiency standards.

-
-
-

-
-
-

Absolute Maximum Ratings at T_j=25 unless otherwise noted

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	600	V
Gate-source voltage	V_{GS}	±30	V
Continuous drain current[1], T_C=25 °C	I_D	23	A
Continuous drain current[1], T_C=100 °C		14.5	
Pulsed drain current[2], T_C=25 °C	$I_{D, pulse}$	69	A
Continuous diode forward current[1], T_C=25 °C	I_S	23	A
Diode pulsed current[2], T_C=25 °C	$I_{S, pulse}$	69	A
Power dissipation[3], T_C=25			

Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		1356		pF	V_{GS}=0 V, V_{DS}=50 V, Hz
Output capacitance	C_{oss}		155		pF	
Reverse transfer capacitance	C_{rss}		2		pF	
Turn-on delay time	$t_{d(on)}$		38.2		ns	V_{GS}=10 V, V_{DS}=400 V, R_G=25 I_D=10 A
Rise time	t_r		25.2		ns	
Turn-off delay time	$t_{d(off)}$		79.2		ns	
Fall time	t_f		31.5		ns	

Gate Charge Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Total gate charge	Q_g		23		nC	V_{GS}=10 V, V_{DS}=400 V, I_D=10 A
Gate-source charge	Q_{gs}		6.0		nC	
Gate-drain charge	Q_{gd}		8.3		nC	
Gate plateau voltage	$V_{plateau}$		5.6		V	

Body Diode Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Diode forward voltage	V_{SD}			1.4	V	I_S=23 A, V_{GS}=0 V
Reverse recovery time	t_{rr}		258.1		ns	V_R=400 V, I_S=10 A,
Reverse recovery charge	Q_{rr}		2.8		C	
Peak reverse recovery current	I_{rrm}		19		A	

Note

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 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=10.8 mH, starting T_j=25 °C.

Electrical Characteristics Diagrams

Figure 1. Typ. output characteristics	**Figure 2. Typ. transfer characteristics**
Figure 3. Typ. capacitances	**Figure 4. Typ. gate charge**
Figure 5. Drain-source breakdown voltage	**Figure 6. Drain-source on-state resistance**

Package Information

Symbol	mm		
	Min	Nom	Max
A	4.37	4.57	4.77
A1	1.22	1.27	1.42
A2	2.49	2.69	2.89

Ordering Information

Package Type	Units/ Reel	Reels / Inner Box	Units/ Inner Box	Inner Boxes/ Carton Box	Units/ Carton Box
TO263-C	800	1	800	5	4000

Product Information

Product	Package	Pb Free	RoHS	Halogen Free
OSG60R150KF	TO263	yes	yes	yes

ORIENTAL SEMICONDUCTOR

A Power Semiconductor Innovator