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.

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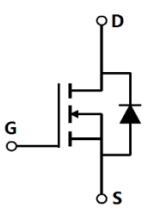
Parameter	Value	Unit
$V_{DS,\ min}$ @ $T_{j(max)}$	700	V
$I_{D,\ pulse}$	33	A
$R_{DS(ON),\ max}$ @ V_{GS}=10V	380	
Q_g	15	nC

Product Name	Package	Marking
OSG65R380DEF	TO252	OSG65R380DE



Absolute Maximum Ratings at T_j=25 unless otherwise noted

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	650	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	15	A
Diode pulsed current[2], T_C=25 °C	$I_{S, pulse}$		

Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		761.3		pF	V_{GS}=0 V, V_{DS}=50 V, MHz
Output capacitance	C_{oss}		62.0		pF	
Reverse transfer capacitance	C_{rss}		2.5		pF	
Turn-on delay time	$t_{d(on)}$		31.0		ns	V_{GS}=10 V, V_{DS}=400 V, R_G=2 " I_D=6 A
Rise time	t_r		18.8		ns	
Turn-off delay time	$t_{d(off)}$		58.3		ns	
Fall time	t_f		6.5		ns	

Gate Charge Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Total gate charge	Q_g		15.0		nC	V_{GS}=10 V, V_{DS}=400 V, I_D=6 A
Gate-source charge	Q_{gs}		3.7		nC	
Gate-drain charge	Q_{gd}		5.8		nC	
Gate plateau voltage	$V_{plateau}$		5.7		V	

Body Diode Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Diode forward voltage	V_{SD}			1.3	V	I_S=11 A, V_{GS}=0 V
Reverse recovery time	t_{rr}		239.7		ns	L . , I_S=6 A, di/dt=10&
Reverse recovery charge	Q_{rr}		2.5		C	
Peak reverse recovery current	I_{rrm}		21.2		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 mH, starting T_j=25 °C.

Package Information

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	5.30 REF		
E	6.40	6.60	6.73
E1	4.63	-	-
e	2.286 BSC		
H	9.40	10.10	10.50
L	1.38	1.50	1.75
L1	2.90 REF		
L2	0.51 BSC		
L3	0.88	-	

Ordering Information

Package Type	Units/ Reel	Reels/ Inner Box	Units/ Inner Box	Inner Boxes/ Carton Box	Units/ Carton Box
TO252-J	2500	2	5000	5	25000
TO252-P	2500	2	5000	5	25000

Product Information

Product	Package	Pb Free	RoHS	Halogen Free
OSG65R380DEF	TO252	yes	yes	yes

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