

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.

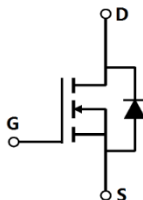
GreenMOS[®]



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Parameter	Value	Unit
$V_{DS, min} @ T_{j(max)}$	650	V
$I_{D, pulse}$	15	A
$R_{DS(ON), max} @ V_{GS}=10V$	900	
Q_g	7.6	nC

Product Name	Package	Marking
OSG60R900PF	TO220	OSG60R900P



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	5	A
Continuous drain current ¹⁾ , $T_C=100$ °C		3.2	
Pulsed drain current ²⁾ , $T_C=25$ °C	$I_{D, pulse}$	15	A
Continuous diode forward current ¹⁾ , $T_C=25$ °C	I_S	5	A
Diode pulsed current ²⁾ , $T_C=25$ °C	$I_{S, pulse}$	15	A
Power dissipation ³⁾ , $T_C=25$ °C	P_D	37	W
Single pulsed avalanche energy ⁵⁾	E_{AS}	130	mJ
MOSFET dv/dt ruggedness, V_{DS}	dv/dt	50	V/ns
Reverse diode dv/dt, V_{DS}	dv/dt	15	V/ns
Operation and storage temperature	T_{stg}, T_j	-55 to 150	°C

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal resistance, junction-case	R	3.4	°C/W
Thermal resistance, junction-ambient ⁴⁾	R	62	°C/W

Electrical Characteristics at $T_j=25$ unless otherwise specified

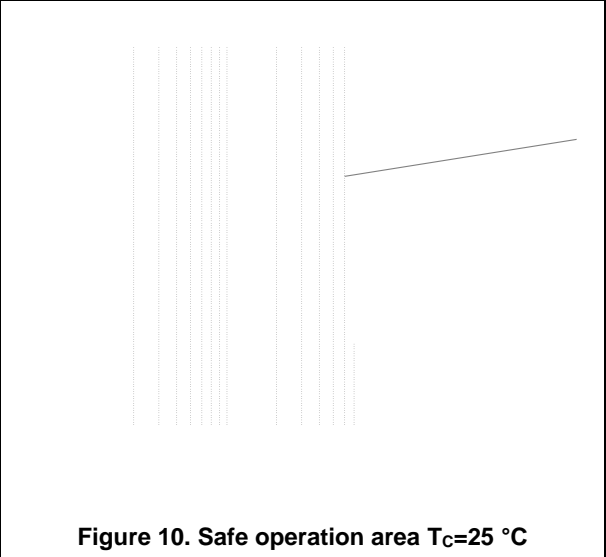
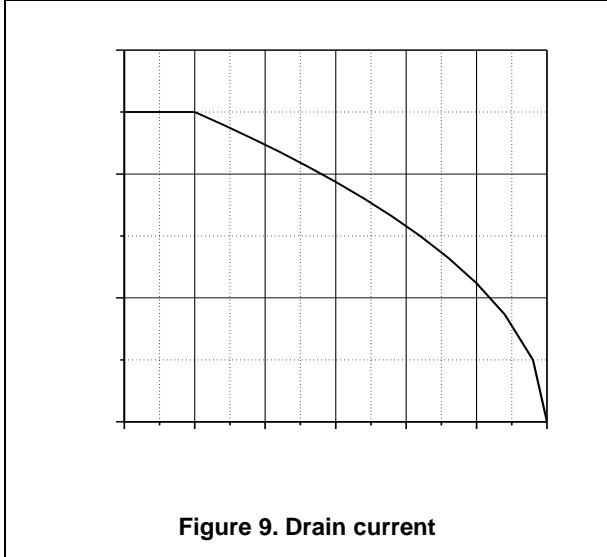
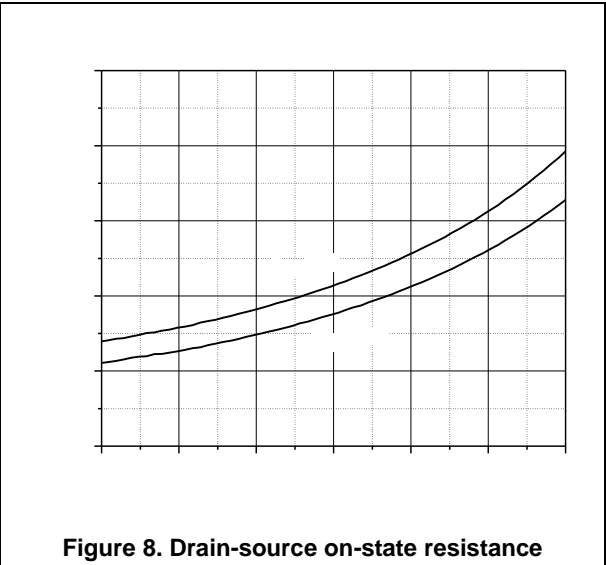
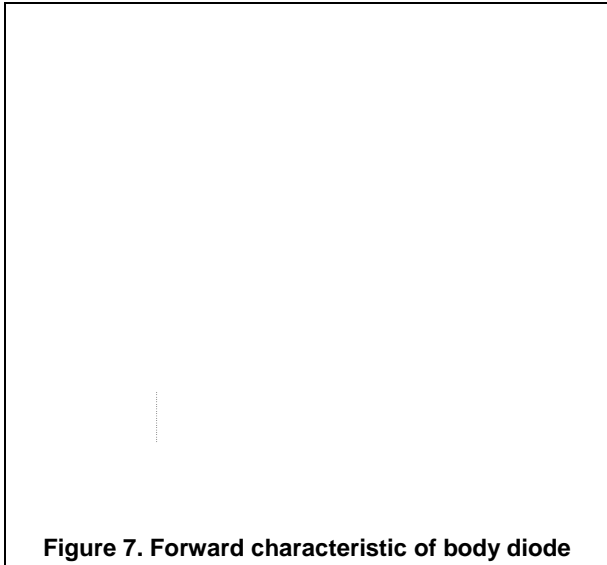
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Drain-source breakdown voltage	BV_{DSS}	600			V	$V_{GS}=0$ V, $I_D=250$ A
		650	716			$V_{GS}=0$ V, I_D , $T_j=150$ °C
Gate threshold voltage	$V_{GS(th)}$	2.0		4.0	V	$V_{DS}=V_{GS}$, $I_D=250$ A
Drain-source on-state resistance	$R_{DS(ON)}$		0.66	0.90		$V_{GS}=10$ V, $I_D=3$ A
			1.6			$V_{GS}=10$ V, $I_D=3$ 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	A	$V_{DS}=600$ V, $V_{GS}=0$ V

Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		354.2		pF	$V_{GS}=0\text{ V}$, $V_{DS}=50\text{ V}$, Hz
Output capacitance	C_{oss}		31.4		pF	
Reverse transfer capacitance	C_{rss}		1.54		pF	
Turn-on delay time	$t_{d(on)}$					

Electrical Characteristics Diagrams

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



Package Information

Symbol	mm		
	Min	Nom	Max
A	4.37	4.57	4.77
A1	1.25	1.30	1.45
A2	2.20	2.40	2.60
b	0.70	0.80	0.95
b2	1.17	1.27	1.47
c	0.40	0.50	0.65
D	15.10	15.60	16.10
D1	8.80	9.10	9.40
D2	5.50	-	-
E	9.70	10.00	10.30
E3	7.00	-	-
e	2.54BSC		
e1	5.08BSC		
H1	6.25	6.50	6.85
L	12.75	13.50	13.80
L1	-	3.10	3.40
	3.40	3.60	3.80
Q	2.60	2.80	3.00

Version1: TO220-P package outline dimension

Ordering Information

Package Type	Units/ Tube	Tubes/ Inner Box	Units/ Inner Box	Inner Boxes/ Carton Box	Units/ Carton Box
TO220-P	50	20	1000	6	6000

Product Information

Product	Package	Pb Free	RoHS	Halogen Free
OSG60R900PF	TO220	yes	yes	yes

