

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.

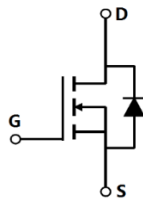
The GreenMOS[®] Generic series is optimized for extreme switching performance to minimize switching loss. It is tailored for high power density applications to meet the highest efficiency standards.

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Parameter	Value	Unit
$V_{DS, min} @ T_{j(max)}$	700	V
$I_{D, pulse}$	24	A
$R_{DS(ON), max} @ V_{GS}=10V$	580	
Q_g	9.5	nC

Product Name	Package	Marking
OSG65R580FF	TO220F	OSG65R580F



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	8	A
Continuous drain current ¹⁾ , $T_C=100$ °C		5	
Pulsed drain current ²⁾ , $T_C=25$ °C	$I_{D, pulse}$	24	A
Continuous diode forward current ¹⁾ , $T_C=25$ °C	I_S	8	A
Diode pulsed current ²⁾ , $T_C=25$ °C	$I_{S, pulse}$	24	A
Power dissipation ³⁾ , $T_C=25$ °C	P_D	28	W
Single pulsed avalanche energy ⁵⁾	E_{AS}	150	mJ
MOSFET dv/dt ruggedness, V_{DS}	dv/dt	50	V/ns
Reverse diode dv/dt, V_{DS} SD D	dv/dt	15	V/ns
Operation and storage temperature	T_{stg}, T_j	-55 to 150	°C

Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		464		pF	$V_{GS}=0\text{ V}$, $V_{DS}=50\text{ V}$, Hz
Output capacitance	C_{oss}		38.3		pF	
Reverse transfer capacitance	C_{rss}		1.47		pF	
Turn-on delay time	$t_{d(on)}$		18		ns	$V_{GS}=10\text{ V}$, $V_{DS}=380\text{ V}$, $R_G=25$ $I_D=8\text{ A}$
Rise time	t_r		18		ns	
Turn-off delay time	$t_{d(off)}$		27		ns	
Fall time	t_f		22		ns	

Gate Charge Characteristics

Electrical Characteristics Diagrams

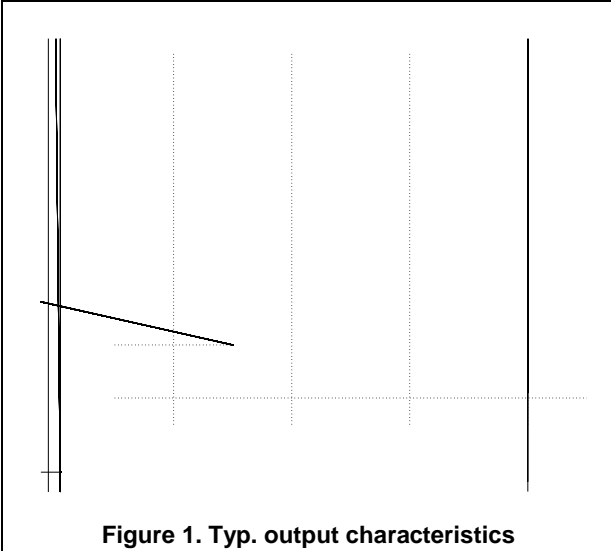


Figure 1. Typ. output characteristics

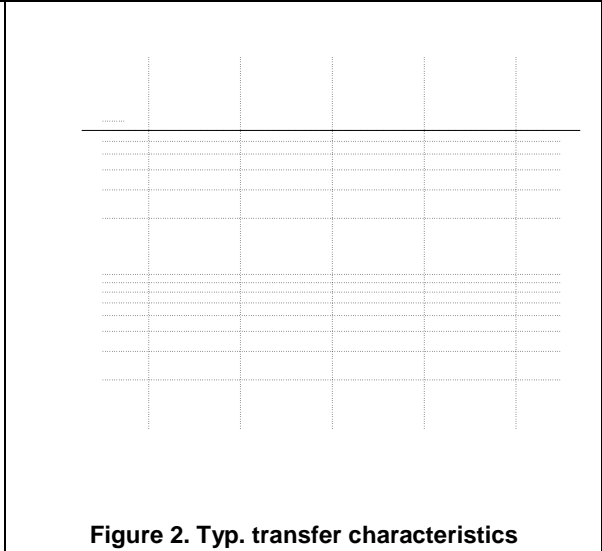


Figure 2. Typ. transfer characteristics

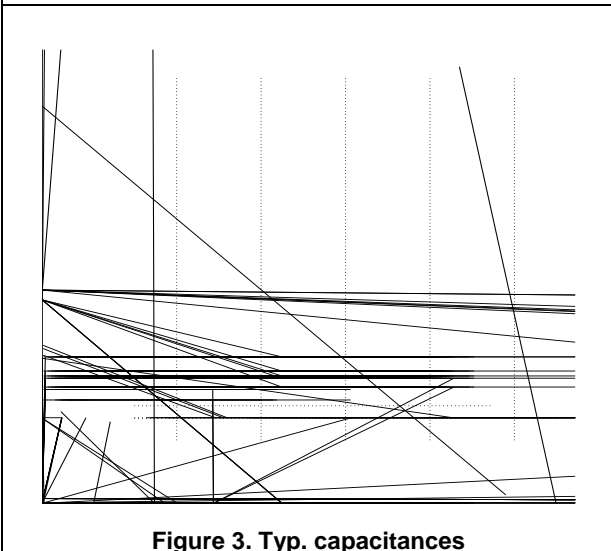


Figure 3. Typ. capacitances

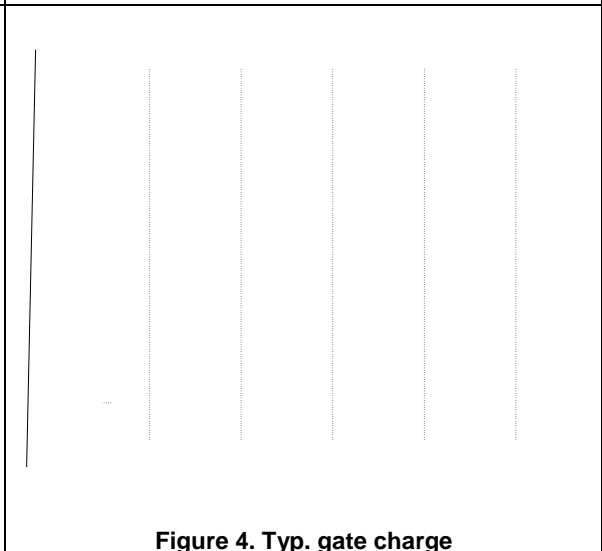


Figure 4. Typ. gate charge

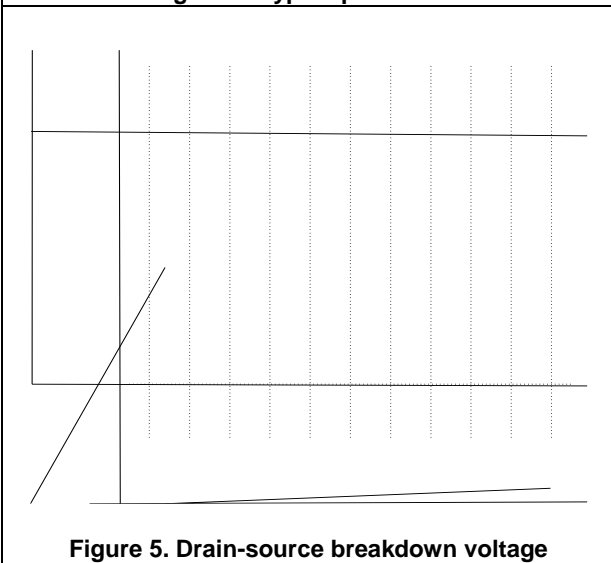


Figure 5. Drain-source breakdown voltage

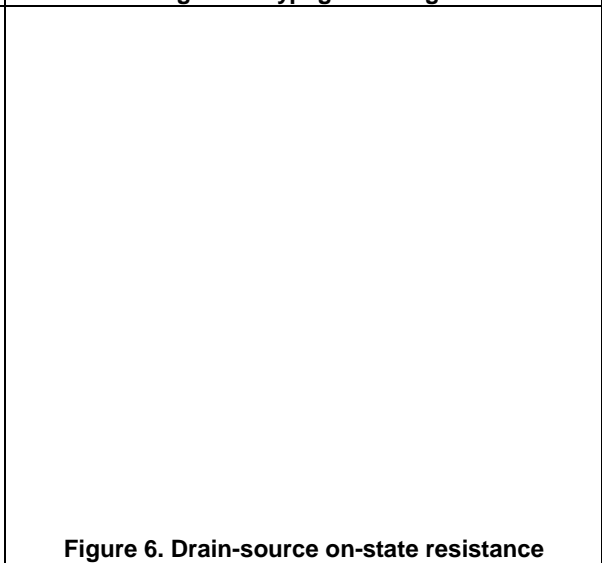
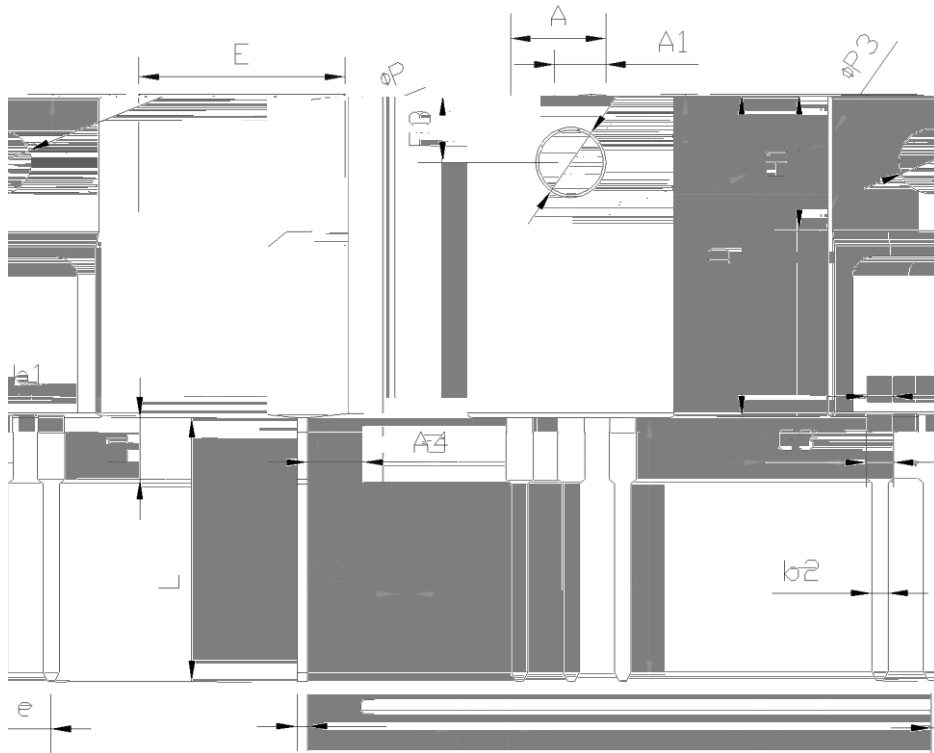


Figure 6. Drain-source on-state resistance

Package Information



Symbol	mm		
	Min	Nom	Max
E	9.96	10.16	10.36
A	4.50	4.70	4.90
A1	2.34	2.54	2.74
A4	2.56	2.76	2.96
c	0.40	0.50	0.65
D	15.57	15.87	16.17
H1	6.70REF		
e	2.54BSC		
L	12.68	12.98	13.28
L1	2.88	3.03	3.18
	3.03	3.18	3.38
	3.15	3.45	3.65
F3	3.15	3.30	3.45
G3	1.25	1.35	1.55
b1	1.18	1.28	1.43
b2	0.70	0.80	0.95

Version 1: TO220F-C package outline dimension

Package Information



Ordering Information

Package Type	Units/ Tube	Tubes/ Inner Box	Units/ Inner Box	Inner Boxes/ Carton Box	Units/ Carton Box
TO220F-C	50	20	1000	6	6000
TO220F-J	50	20	1000	5	5000

Product Information

Product	Package	Pb Free	RoHS	Halogen Free
OSG65R580FF	TO220F	yes	yes	yes

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