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®

RoHS

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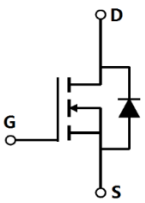
Parameter	Value	Unit
$V_{DS,\ min}$ @ $T_{j(max)}$	650	V
$I_{D,\ pulse}$	60	A
$R_{DS(ON)\ ,\ max}$ @ V_{GS}=10V	190	m
Q_g	17.7	nC

Product Name	Package	Marking
OSG60R190DTF	TO252	OSG60R190DT



Absolute Maximum Ratings at T_j=25 unless otherwise noted

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	600	V
Gate-source voltage DC	V_{GS}	±30	V
Continuous drain current[1)], T_C=25 °C	I_D	20	A

Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		968.9		pF	V_{GS}=0 V, V_{DS}=50 V, Hz
Output capacitance	C_{oss}		112.5		pF	
Reverse transfer capacitance	C_{rss}		1.9		pF	
Turn-on delay time	$t_{d(on)}$		22.0		ns	V_{GS}=10 V, V_{DS}=400 V, R_G=2 I_D=10 A
Rise time	t_r		6.7		ns	
Turn-off delay time	$t_{d(off)}$		36.1		ns	
Fall time	t_f		3.5		ns	

Electrical Characteristics Diagrams

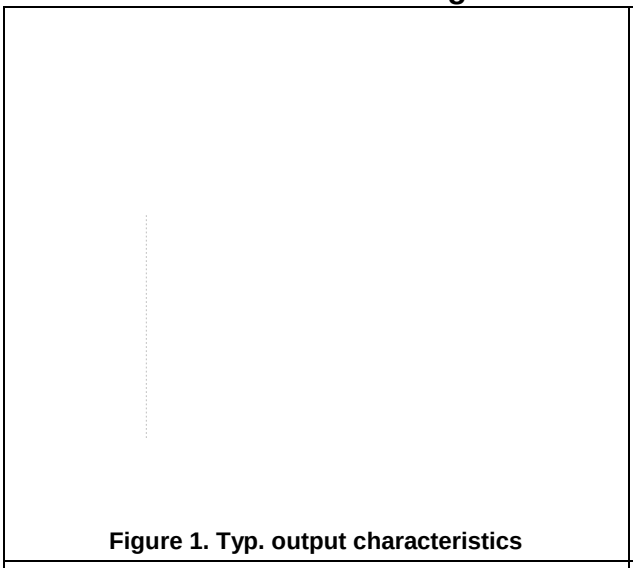


Figure 1. Typ. output characteristics

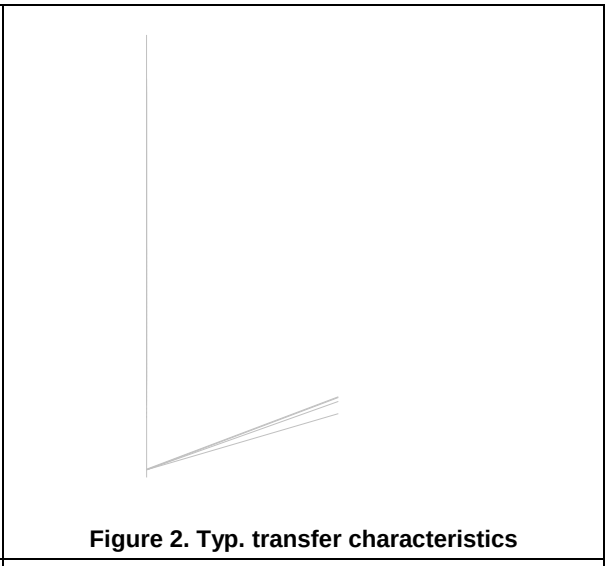


Figure 2. Typ. transfer characteristics

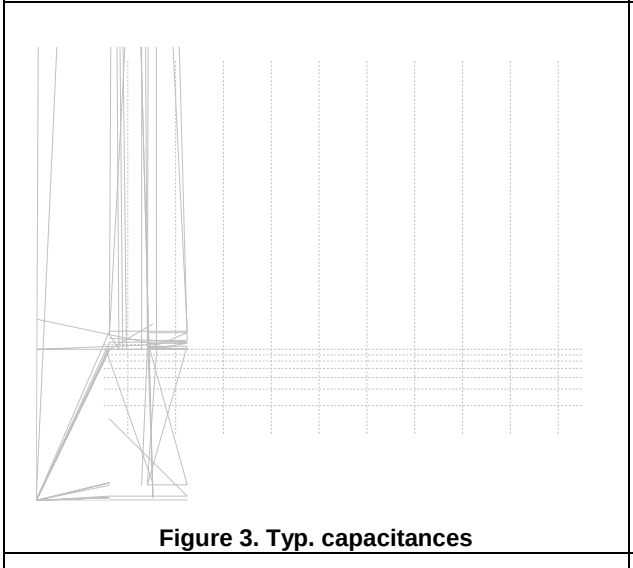


Figure 3. Typ. capacitances

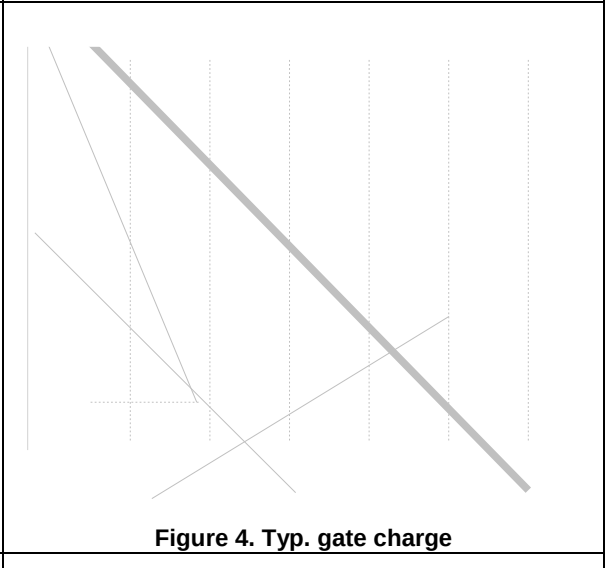


Figure 4. Typ. gate charge

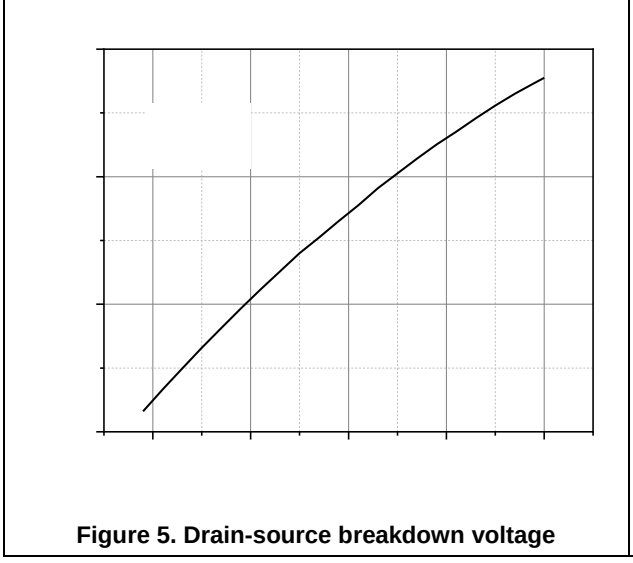


Figure 5. Drain-source breakdown voltage

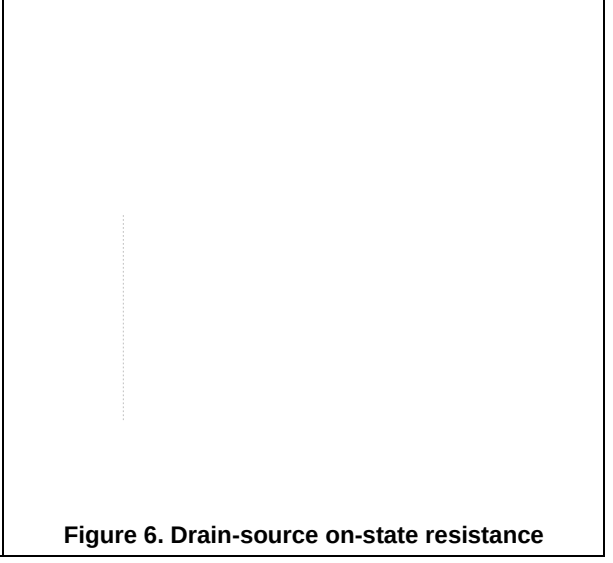


Figure 6. Drain-source on-state resistance

Figure 7. Threshold voltage

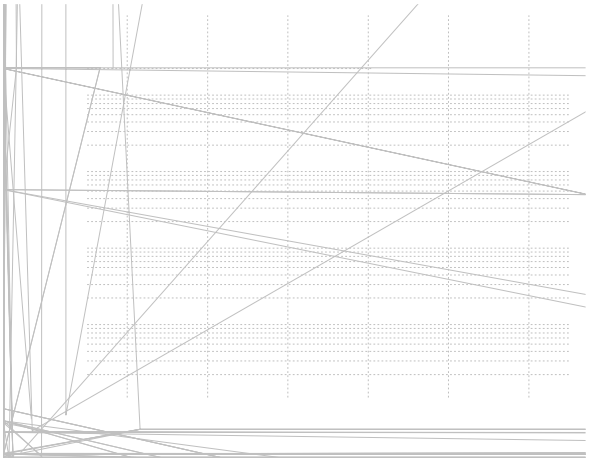


Figure 8. Forward characteristic of body diode

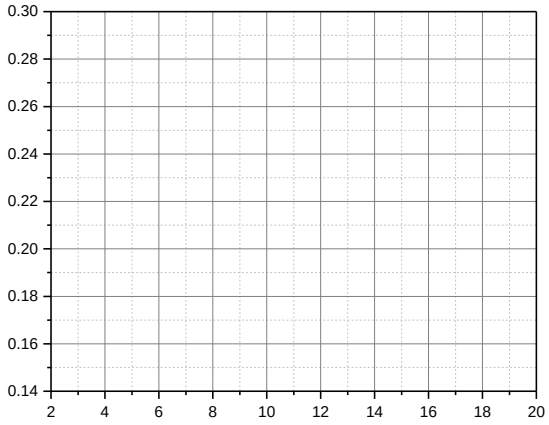


Figure 9. Drain-source on-state resistance

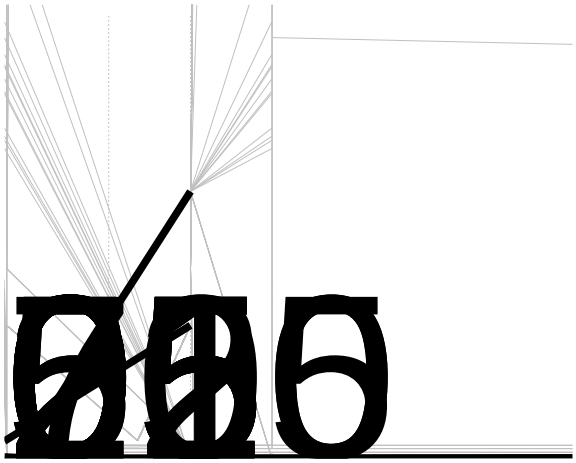


Figure 10. Drain current

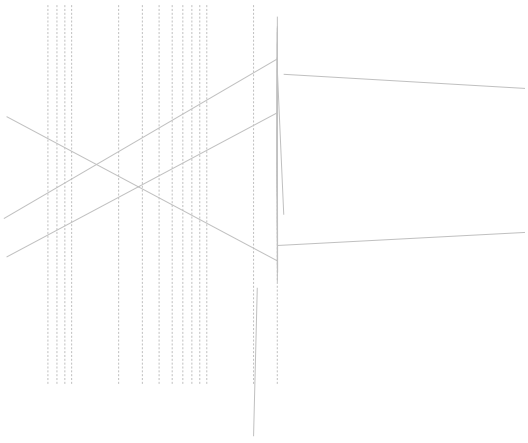


Figure 11. Safe operation area T_C=25 °C

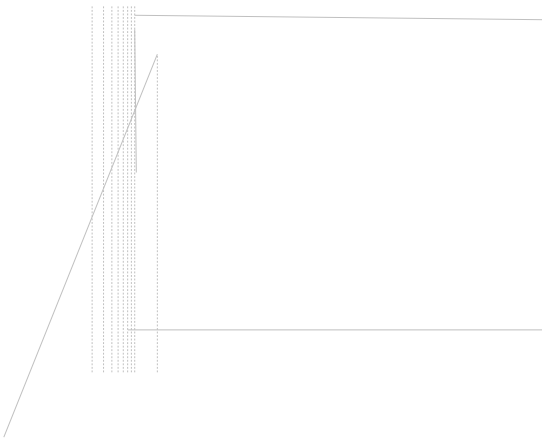


Figure 12, Max. transient thermal impedance

Test circuits and waveforms

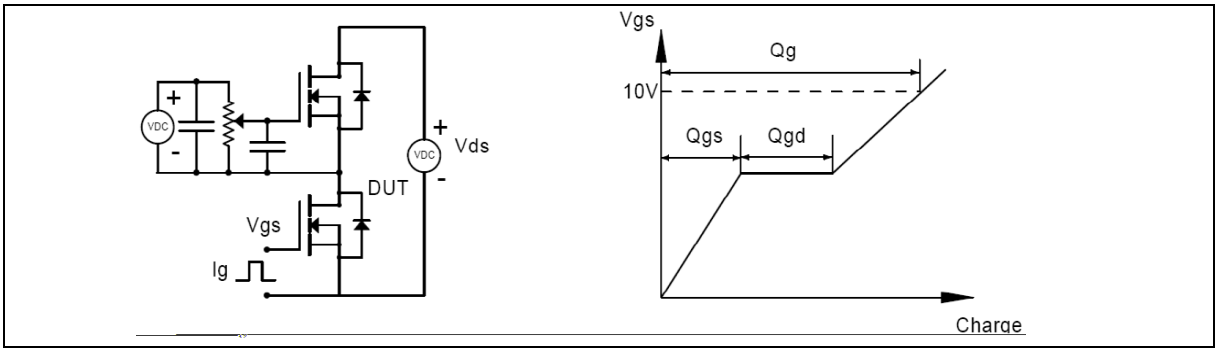


Figure 1. Gate charge test circuit & waveform

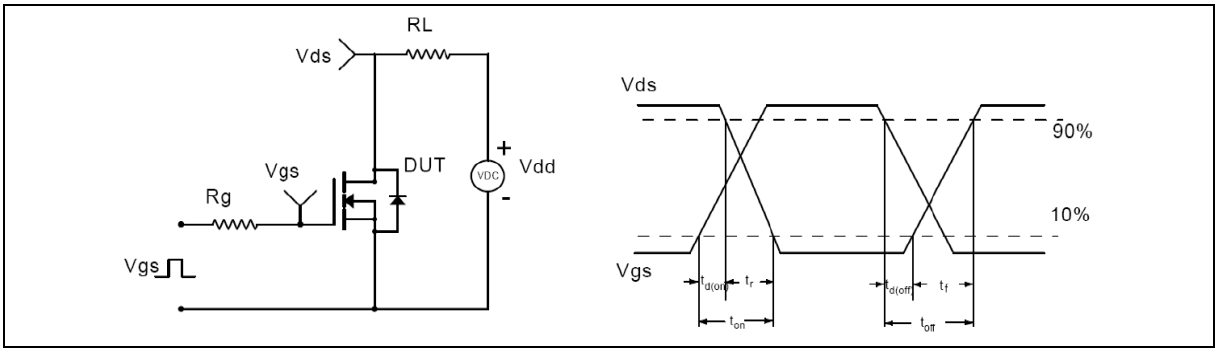


Figure 2. Switching time test circuit & waveforms

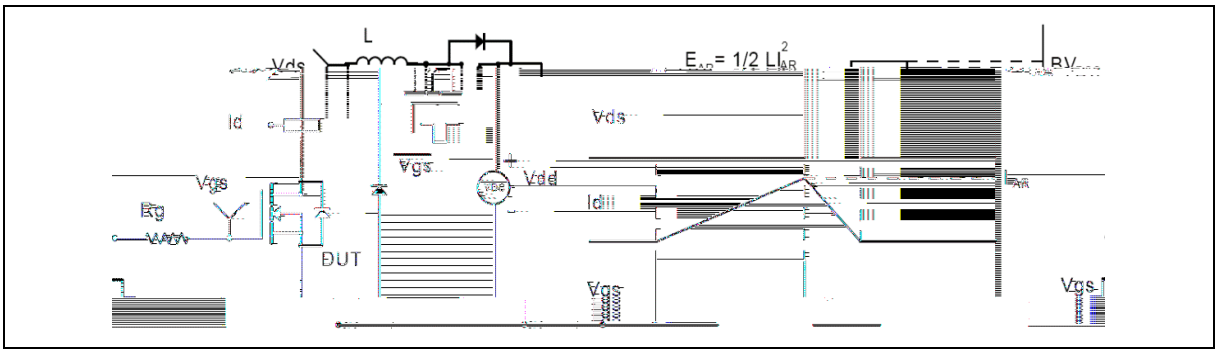


Figure 3. Unclamped inductive switching (UIS) test circuit & waveforms

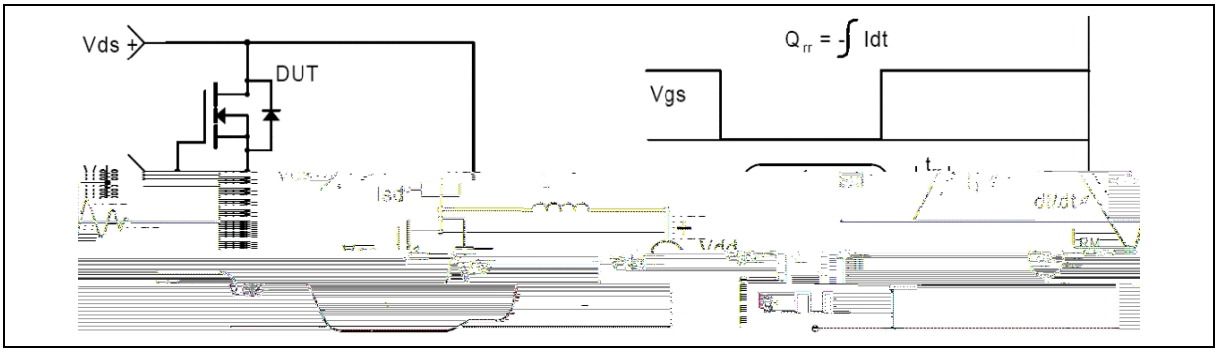


Figure 4. Diode reverse recovery test circuit & waveforms

Package Information

Ordering Information

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

Product Information

Product	Package	Pb Free	RoHS	Halogen Free
OSG60R190DTF	TO252	yes	yes	yes