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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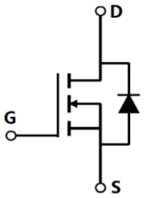
Parameter	Value	Unit
$V_{DS,\ min}$ @ $T_{j(max)}$	700	V
$I_{D,\ pulse}$	33	A
$R_{DS(ON),\ max}$ @ V_{GS}=10V	380	
Q_g	20.6	nC

Product Name	Package	Marking
OSG65R380KSF	TO263	OSG65R380KS



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 current1), T_C=25 °C	I_D	11	A
Continuous drain current1), T_C=100 °C		7	
Pulsed drain current			

Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		875.2		pF	V_{GS}=0 V, V_{DS}=50 V, 00 kHz
Output capacitance	C_{oss}		94.8		pF	
Reverse transfer capacitance	C_{rss}		2.9		pF	
Turn-on delay time	$t_{d(on)}$		25.7		ns	V_{GS}=10 V, V_{DS}=400 V, R_G=2.5 I_D=10 A
Rise time	t_r		25.9		ns	
Turn-off delay time	$t_{d(off)}$					

Electrical Characteristics Diagrams

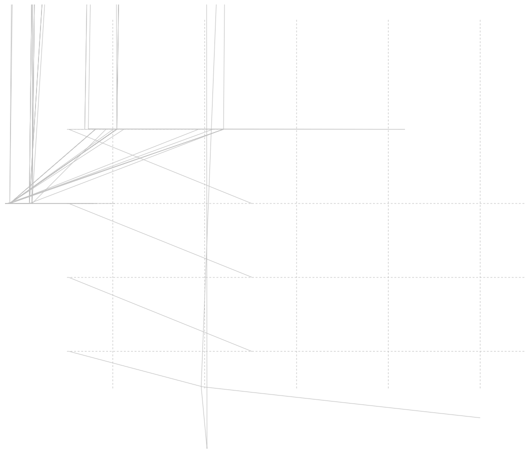


Figure 1. Typ. output characteristics

Figure 2. Typ. transfer characteristics

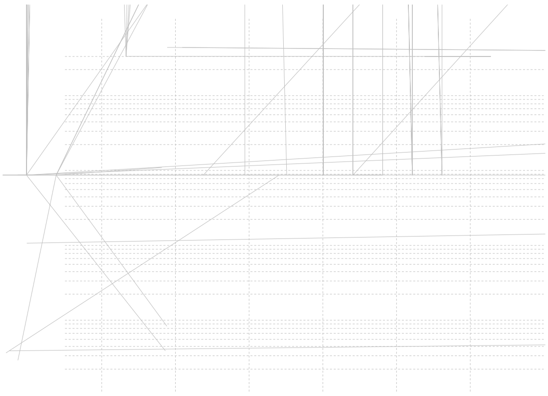


Figure 3. Typ. capacitances

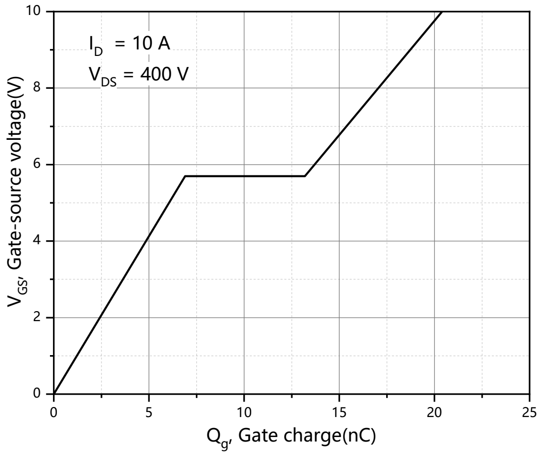


Figure 4. Typ. gate charge

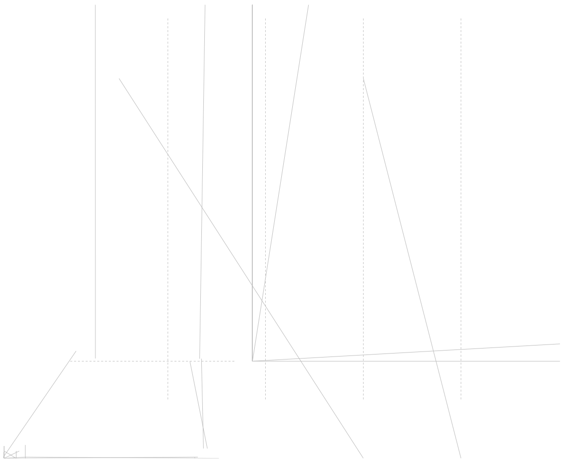


Figure 5. Drain-source breakdown voltage

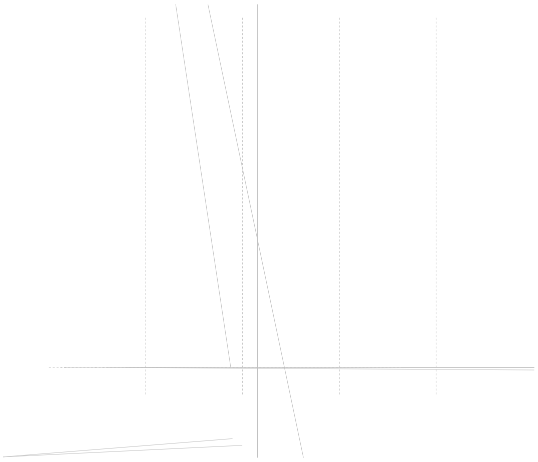


Figure 6. Drain-source on-state resistance

Figure 7. Threshold voltage

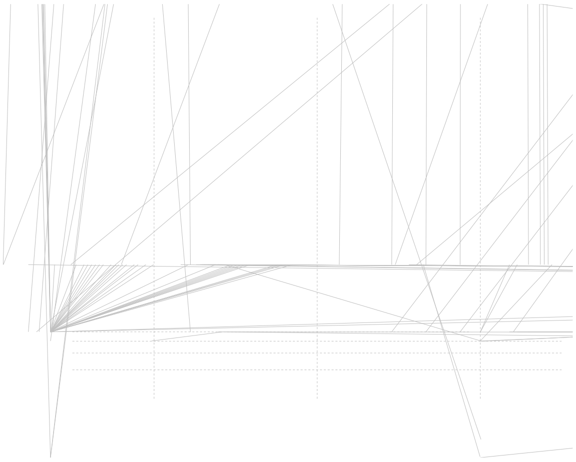


Figure 8. Forward characteristic of body diode

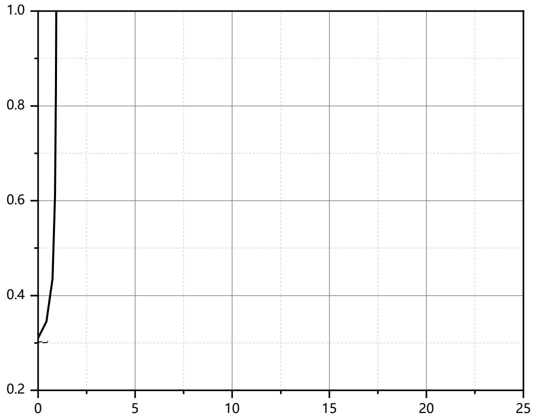


Figure 9. Drain-source on-state resistance

Figure 10. Drain current

Figure 11. Safe operation area T_C=25 °C

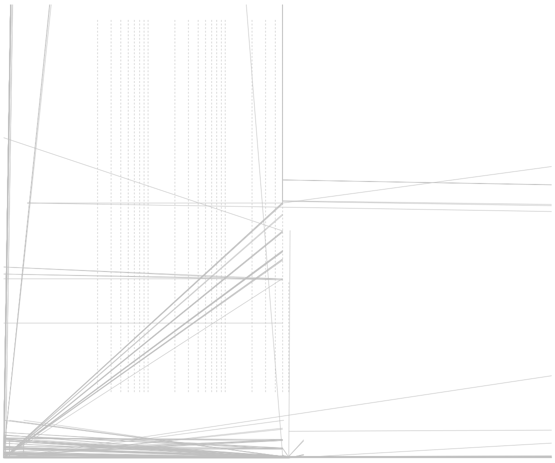


Figure 12. Max. transient thermal impedance

Test circuits and waveforms

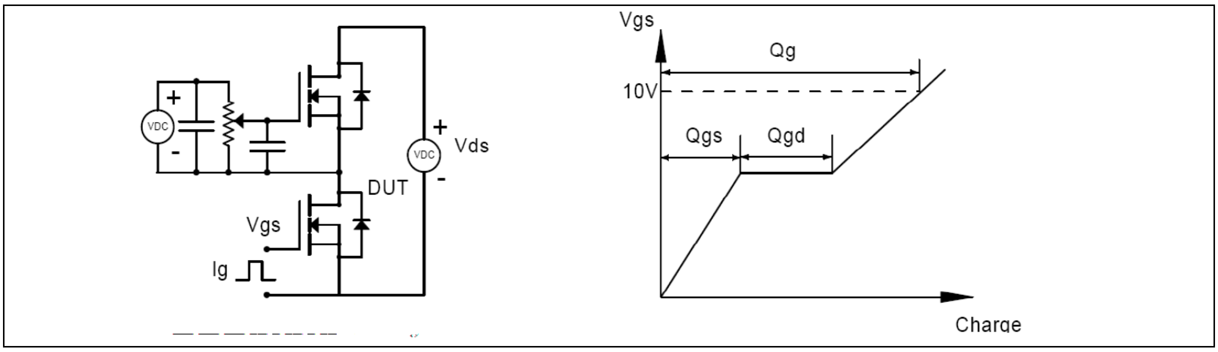


Figure 1. Gate charge test circuit & waveform

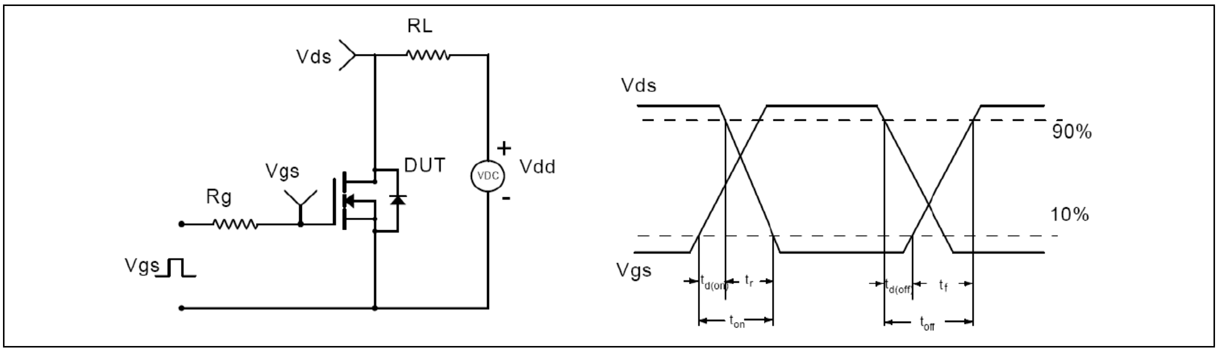


Figure 2. Switching time test circuit & waveforms

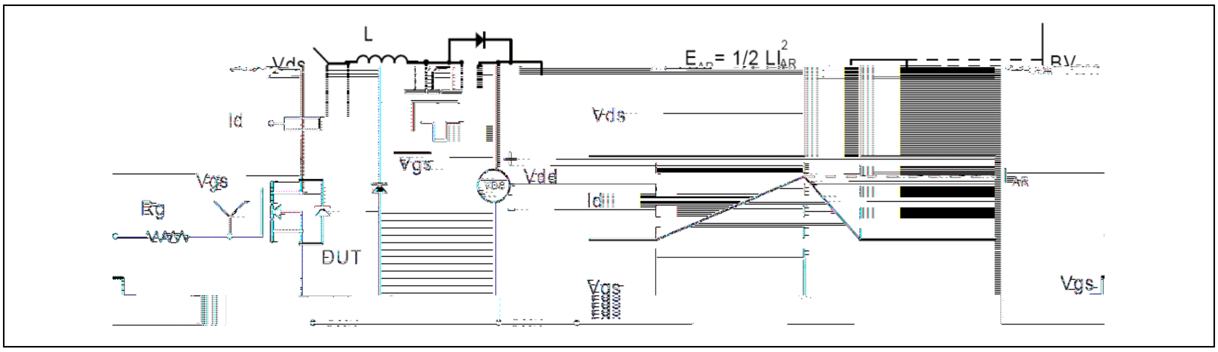


Figure 3. Unclamped inductive switching (UIS) test circuit & waveforms

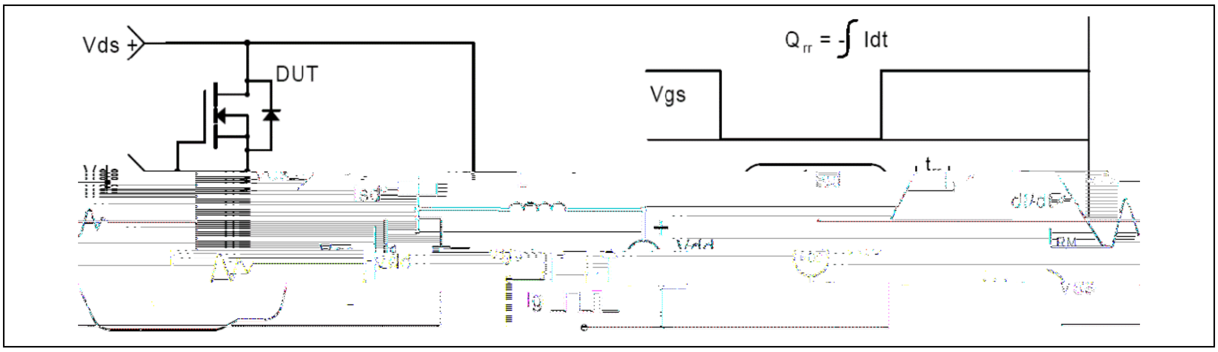
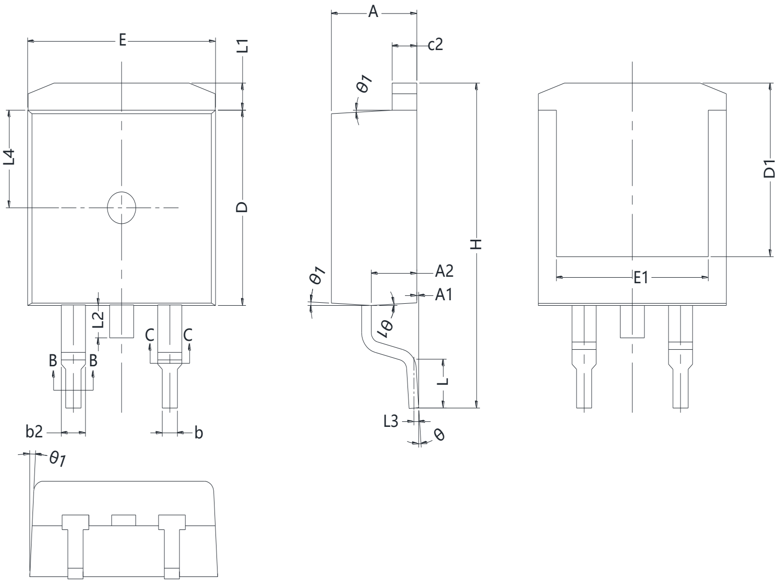


Figure 4. Diode reverse recovery test circuit & waveforms

Package Information



Symbol	mm		
	Min	Nom	Max
A	4.40	4.50	4.60
A1	0.00	0.10	0.25
A2	2.20	2.40	2.60
b	0.76	-	0.89
b1	0.75	0.80	0.85
b2	1.23	-	1.37
b3	1.22	1.27	1.32
c	0.47	-	0.60
c1	0.46	0.51	0.56
c2	1.25	1.30	1.35
D	9.10	9.20	9.30
D1	8.00	-	-
E	9.80	9.90	10.00
E1	7.80	-	-
e	2.54 BSC		
H	14.90	15.30	15.70
L	2.00	2.30	2.60
L1	1.17	1.27	1.40
L2	-	-	1.75
L3	0.25 BSC		
L4	4.60 REF		
	0°	-	8°
	1°	3°	5°

Version 1: TO263-J package outline dimension

Ordering Information

Package Type	Units/ Reel	Reels/ Inner Box	Units/ Inner Box	Inner Boxes/ Carton Box	Units/ Carton Box
TO263-J	800	1	800	10	8000

Product Information

Product	Package	Pb Free	RoHS	Halogen Free
OSG65R380KSF	TO263	yes	yes	yes

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