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.

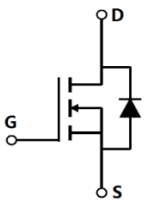
7KH *UHHQ0 26 VHULHV LV RSWLPL]HG IRU LWV VZLWFKLQJ FKDUDFWHUL VWDQGDUGV ,W LV HDV\ WR XVH IRU VPDOOHU SRZHU VXSSO\ V\VWH VWDQGDUGV

- /RZ 5 21)20
- ([WUHPHO\ ORZ VZLWFKLQJ ORVV
- ([FHOOHQW EW LW\ DQG XQLIRUPLW\

- /(' OLJKWLQJ
- &KDUJHU
- $GDSWHU
- 7HOHFRP SRZHU
- 6HUYHU SRZHU
- 6RODU 836

Parameter	Value	Unit
$V_{DS,\ min}$ @ $T_{j(max)}$	750	V
$I_{D,\ pulse}$	33	A
$R_{DS(ON),\ max}$ @ V_{GS}=10V	360	P
Q_g	20.6	nC

Product Name	Package	Marking
OSG70R360KSF	TO263	OSG70R360KS



Absolute Maximum Ratings at T_j=25 ƒ &unless otherwise noted

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	700	V
Gate-source voltage	V_{GS}	±30	V
Continuous drain current[1], T_C=25 ℃	I_D	11	A
Continuous drain current[1], T_C=100 ℃		7	
Pulsed drain current[2], T_C=25 ℃	$I_{D, pulse}$	33	A
Continuous diode forward current[1], T_C=25 ℃	I_S	11	A
Diode pulsed current[2], T_C=25 ℃	$I_{S, pulse}$	33	J E19.

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	$t_{d(off)}$		58.4		ns	
Fall time	t_f		21		ns	

Gate Charge Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Total gate charge	Q_g		20.6		nC	V_{GS}=10 V, V_{DS}=400 V, I_D=10 A
Gate-source charge	Q_{gs}		6.7		nC	
Gate-drain charge	Q_{gd}		6.3		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}		306.7		ns	V_R=400 V, I_S=10 A, di/dt=10 $ V
Reverse recovery charge	Q_{rr}		3.7		C	
Peak reverse recovery current	I_{rrm}		21.5		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 ℃.
5) V_{DD}=100 V, V_{GS}=10 V, L=79.9 mH, starting T_j=25 ℃.

Electrical Characteristics Diagrams

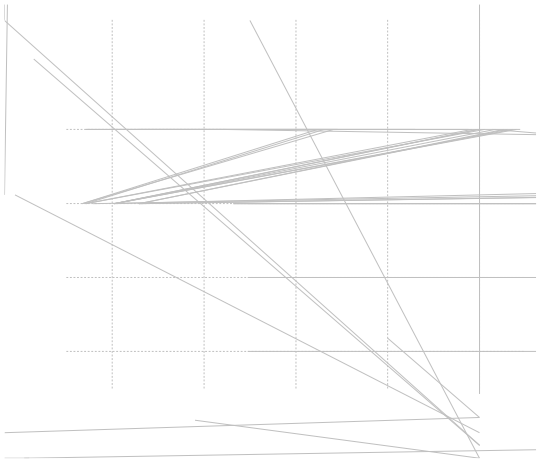


Figure 1. Typ. output characteristics

Figure 2. Typ. transfer characteristics

Figure 3. Typ. capacitances

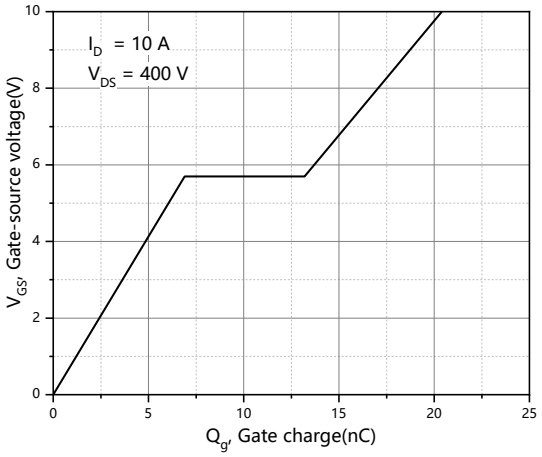


Figure 4. Typ. gate charge

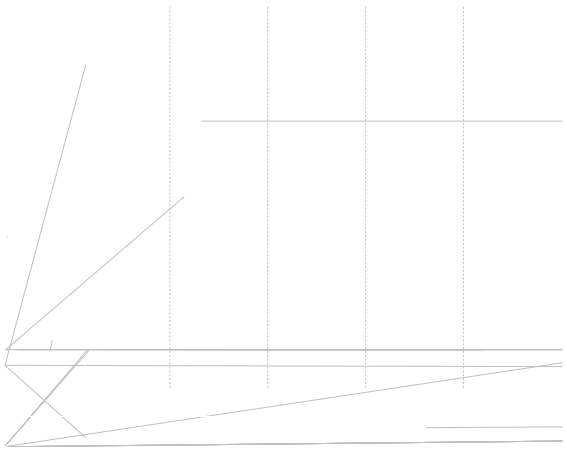


Figure 5. Drain-source breakdown voltage

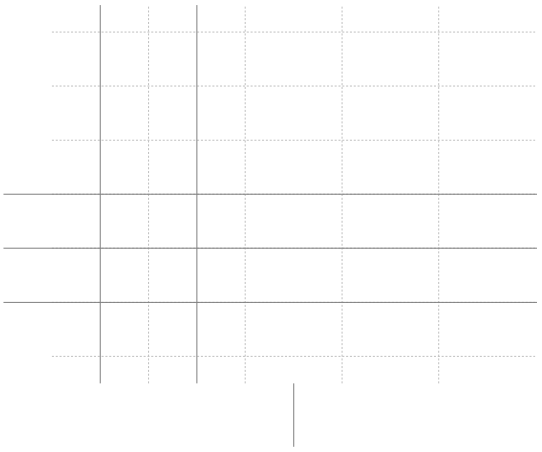


Figure 6. Drain-source on-state resistance

Figure 7. Threshold voltage

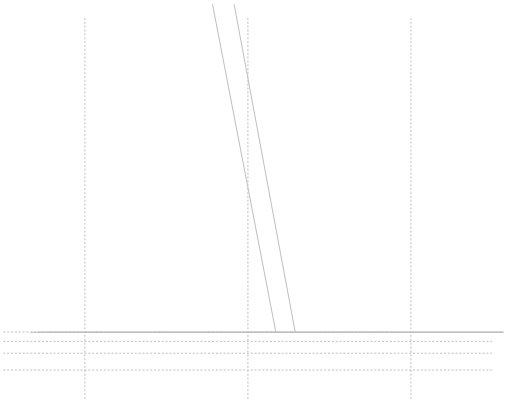


Figure 8. Forward characteristic of body diode

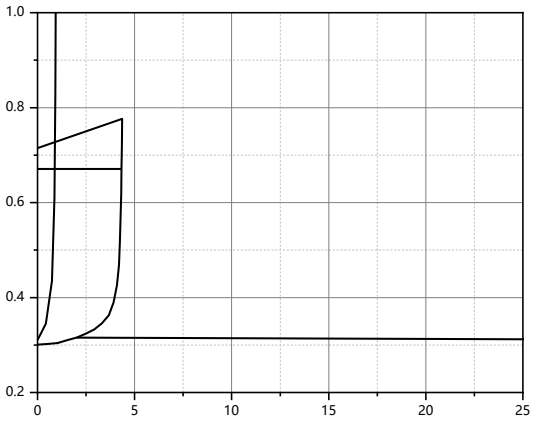


Figure 9. Drain-source on-state resistance

Figure 10. Drain current

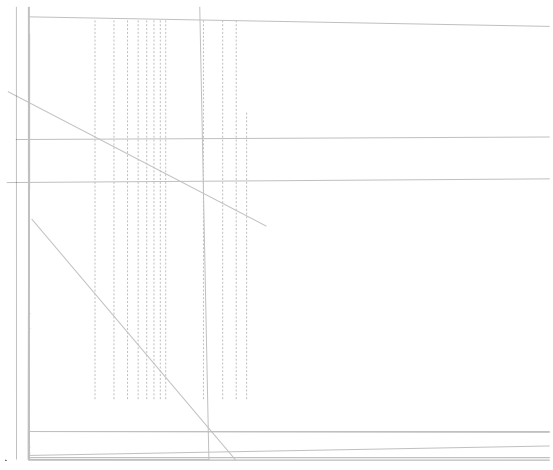


Figure 11. Safe operation area T_C=25 °C

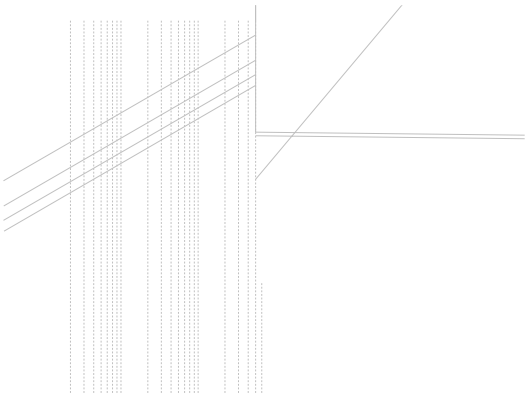


Figure 12. Max. transient thermal impedance

Test circuits and waveforms

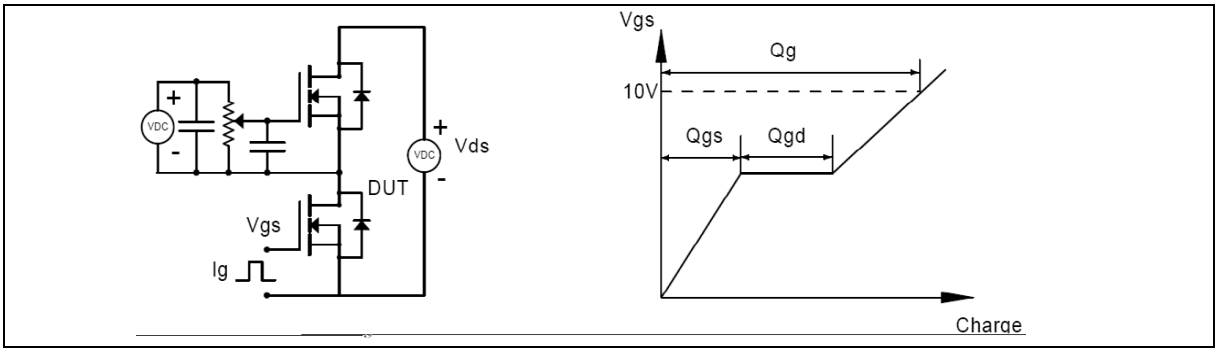


Figure 1. Gate charge test circuit & waveform

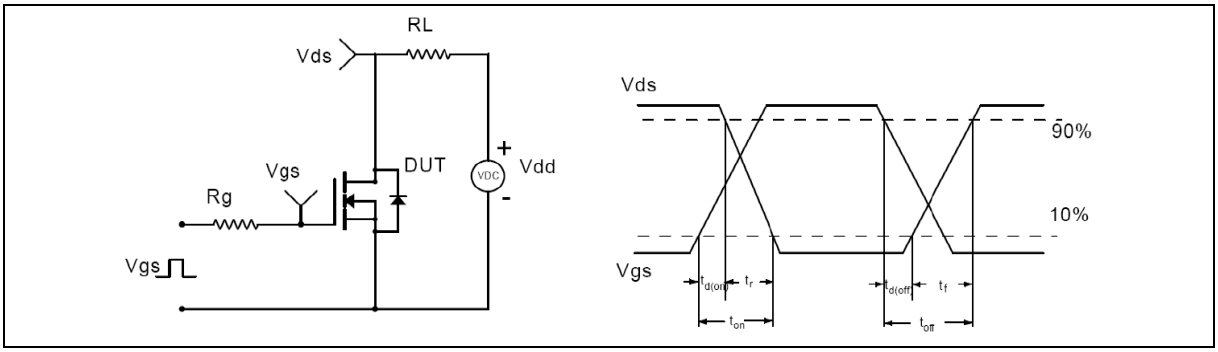


Figure 2. Switching time test circuit & waveforms

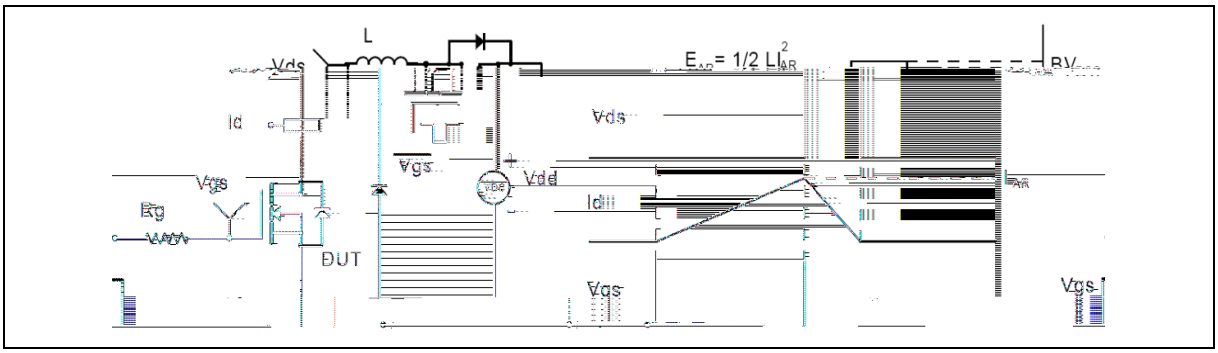


Figure 3. Unclamped inductive switching (UIS) test circuit & waveforms

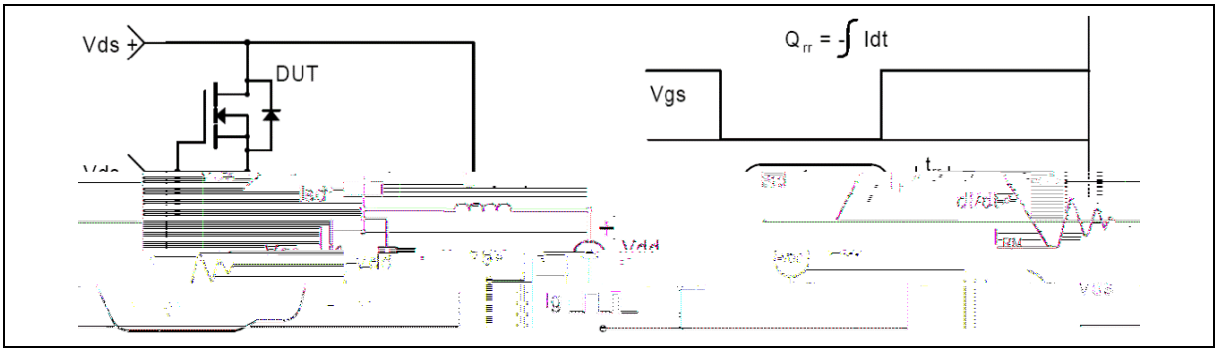
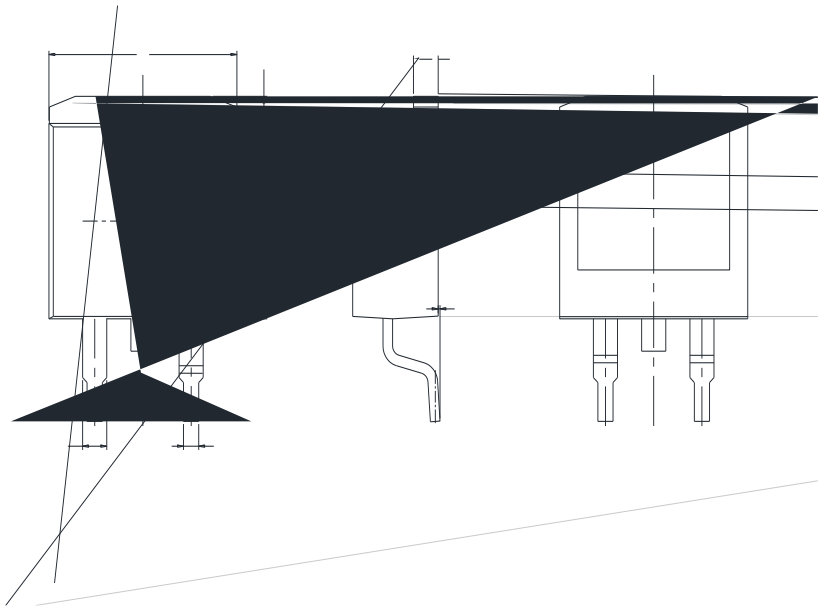


Figure 4. Diode reverse recovery test circuit & waveforms

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	2.54BSC		
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	0.25BSC		
L4	4.60REF		
	0 Û	-	Û
	1 Û	3 Û	5 Û

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
OSG70R360KSF	TO263	yes	yes	yes