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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Absolute Maximum Ratings at T_j=25 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 °C	I_D	2	A
Continuous drain current[1], T_C=100 °C		1.3	
Pulsed drain current[2], T_C=25 °C	$I_{D,\ pulse}$	6	A
Continuous diode forward current[1], T_C=25 °C	I_S	2	A
Diode pulsed current[2], T_C=25 °C	$I_{S,\ pulse}$	6	A
Power dissipation[3], T_C=25 °C	P_D	22.3	W
Single pulsed avalanche energy[5]	E_{AS}	70	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

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal resistance, junction-case	R	5.6	°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}	700			V	V_{GS}=0 V, I_D=250 A
		750	810			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	$R_{DS(ON)}$		2.3	2.6		V_{GS}=10 V, I_D=1 A
			5.3			V_{GS}=10 V, I_D=1 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}=700 V, V_{GS}=0 V

Dynamic Characteristics

Parameter	Symbol	[redacted]	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		182		pF	V_{GS}=0 V, V_{DS}=50 V, Hz
Output capacitance	C_{oss}		12.08		pF	
Reverse transfer capacitance	C_{rss}		0.75		pF	
Turn-on delay time	$t_{d(on)}$		20.5		ns	V_{GS}=10 V, V_{DS}=350 V, R_G=25 (I_D=1 A
Rise time	t_r		11.2		ns	
Turn-off delay time	[redacted]					

Electrical Characteristics Diagrams

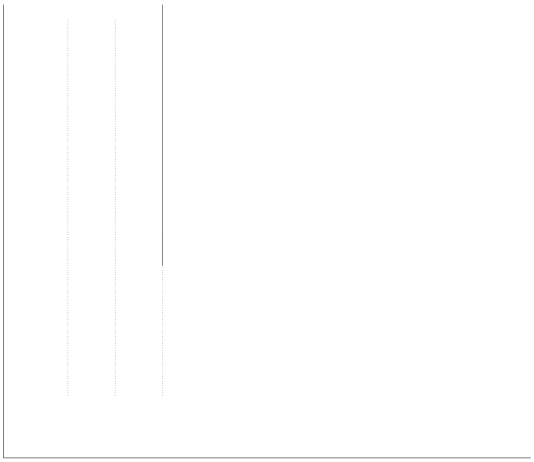


Figure 1. Typ. output characteristics

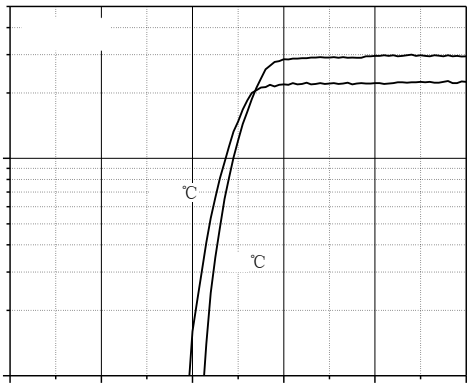


Figure 2. Typ. transfer characteristics

Figure 3. Typ. capacitances

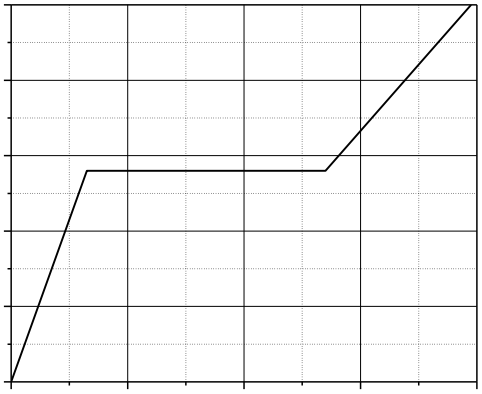


Figure 4. Typ. gate charge

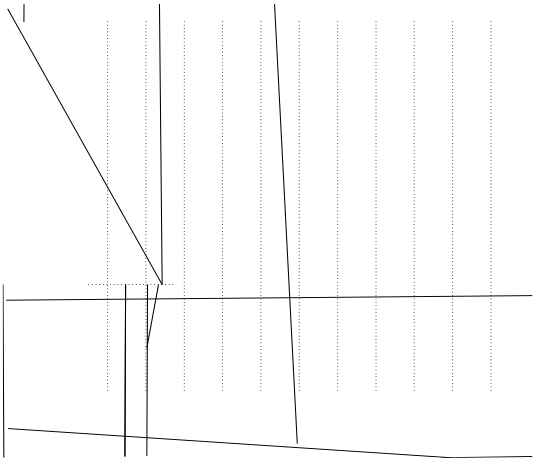


Figure 5. Drain-source breakdown voltage

Figure 6. Drain-source on-state resistance

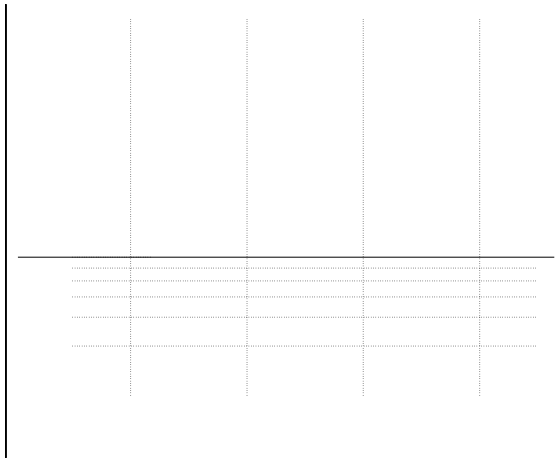


Figure 7. Forward characteristic of body diode

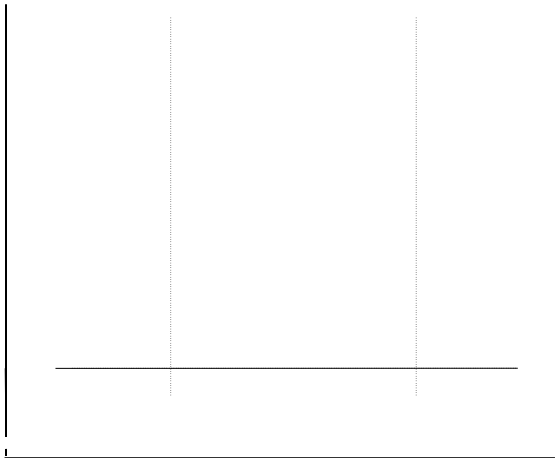


Figure 8. Drain-source on-state resistance

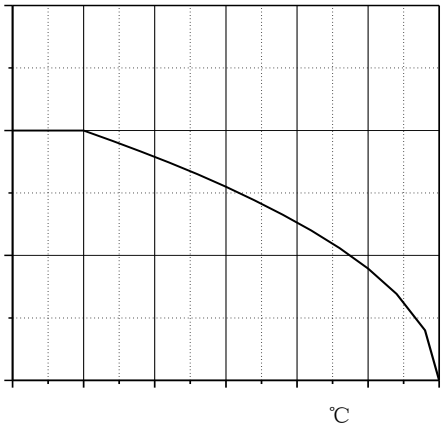


Figure 9. Drain current

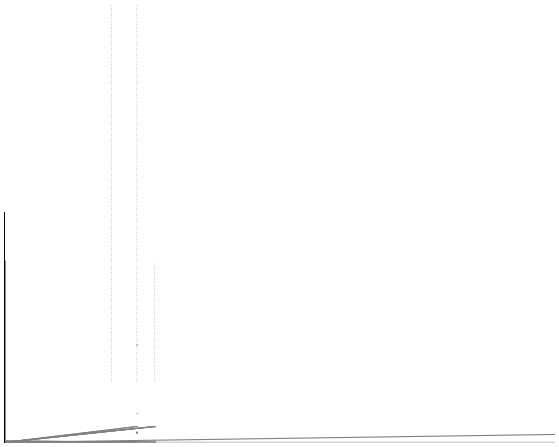


Figure 10. Safe operation area T_C=25 °C

Test circuits and waveforms

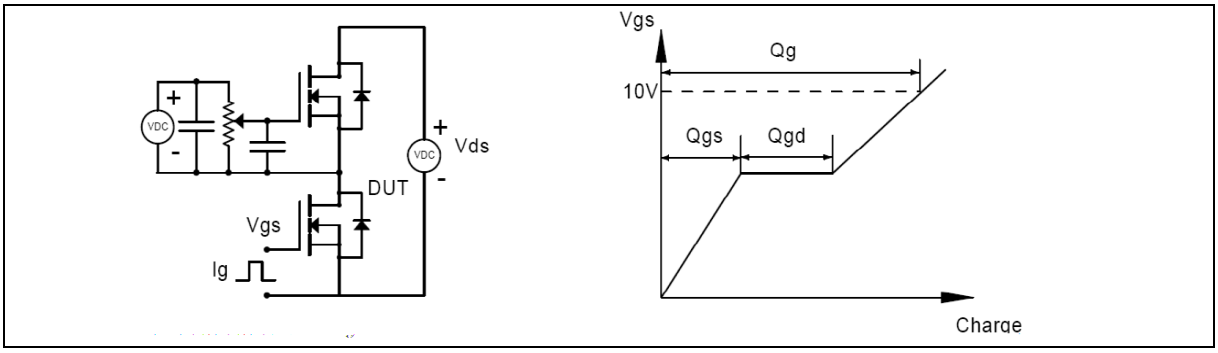


Figure 1. Gate charge test circuit & waveform

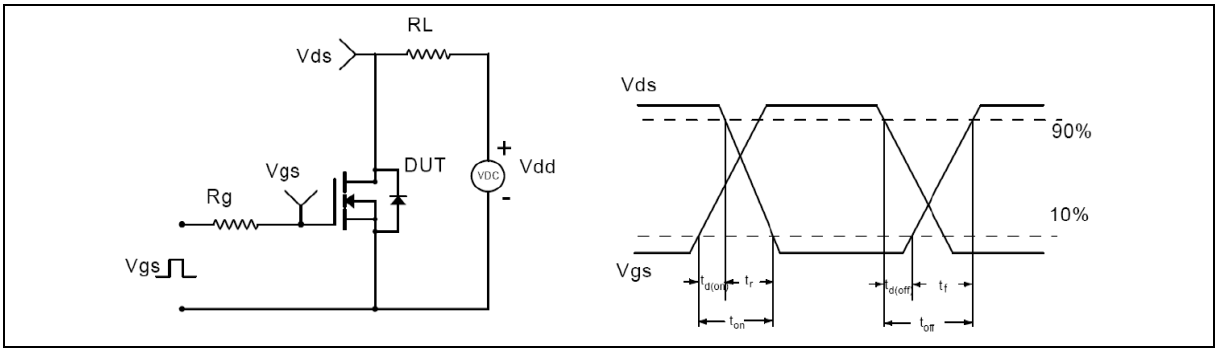


Figure 2. Switching time test circuit & waveforms

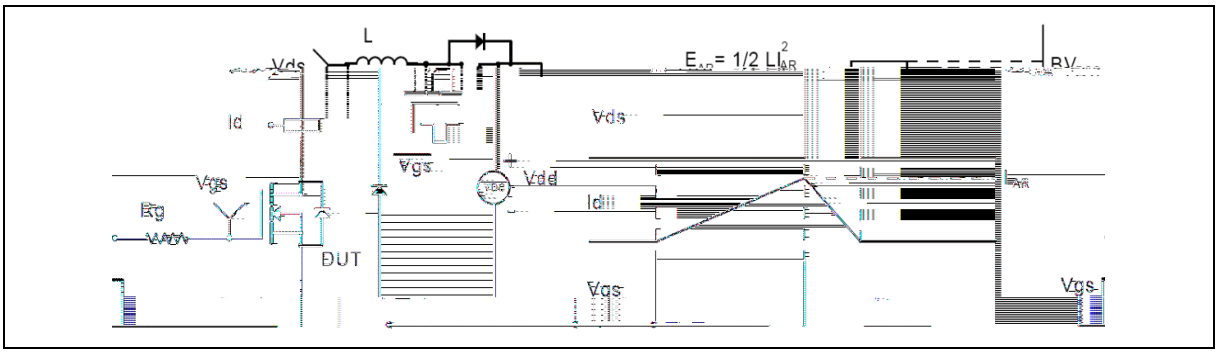


Figure 3. Unclamped inductive switching (UIS) test circuit & waveforms

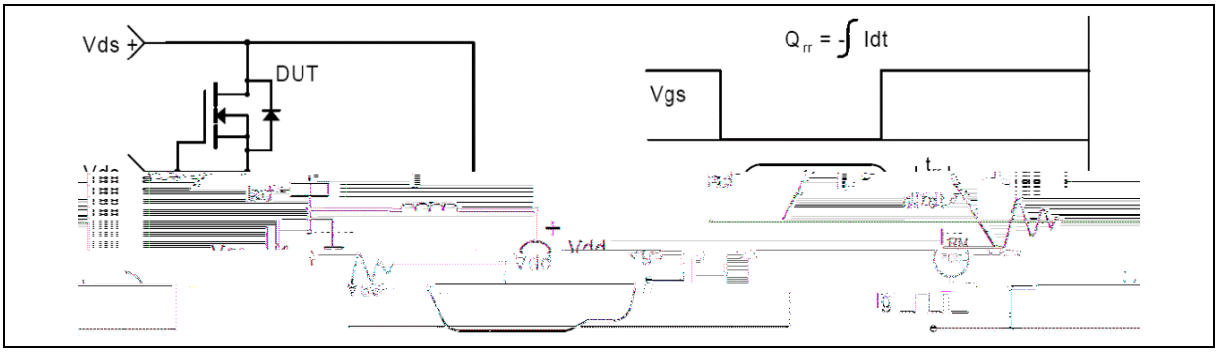
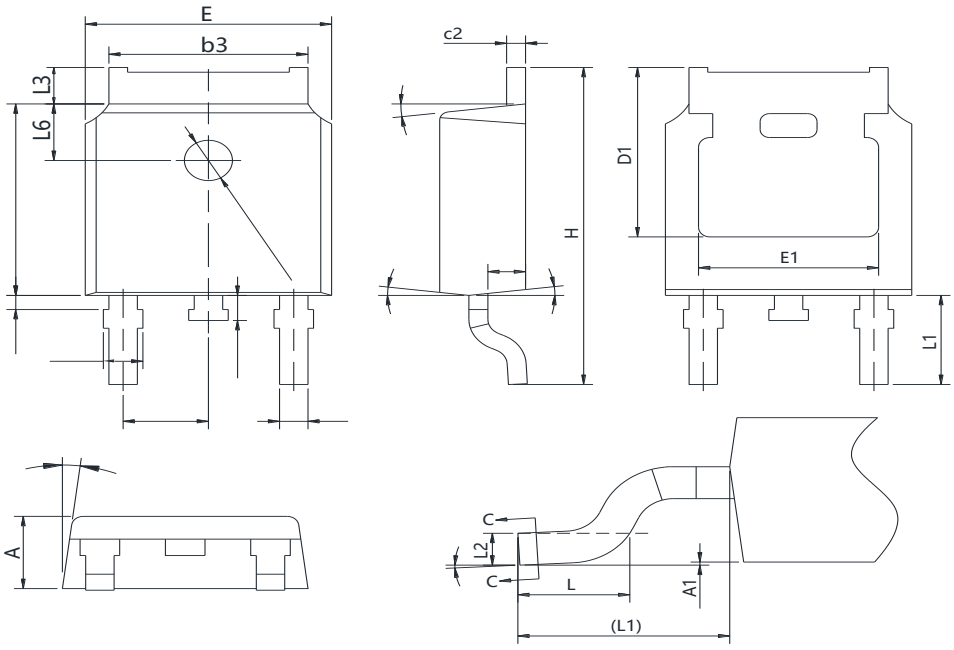


Figure 4. Diode reverse recovery test circuit & waveforms

Package Information



c2C

Symbol	mm		
	Min	Nom	Max
A	2.20	2.30	2.38
A1	0.00	-	0.10
A2	0.90	1.01	1.10
b	0.72	-	0.85
b1	0.71	0.76	0.81
b2	0.72	-	0.90
b3	5.13	5.33	5.46
c	0.47	-	0.60
c1	0.46	0.51	0.56
c2	0.47	-	0.60
D	6.00	6.10	6.20
D1	5.25	-	-
E	6.50	6.60	6.70
E1	4.70	-	-
e	2.186	2.286	2.386
H	9.80	10.10	10.40
L	1.40	1.50	1.70
L1	2.90REF		
L2	0.508BSC		
L3	0.90	-	1.25
L4	0.60	0.80	1.00
L5	0.15	-	0.75
L6	1.80REF		
	0	-	

Version 1: TO252-J package outline dimension

Ordering Information

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

Product Information

Product	Package	Pb Free	RoHS	Halogen Free
OSG70R2K6DF	TO252	yes	yes	yes

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