

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.

Absolute Maximum Ratings at $T_j=25$ unless otherwise noted

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	600	V
Gate-source voltage	V_{GS}	± 30	V
Continuous drain current ¹⁾ , $T_C=25$ °C	I_D	36	A
Continuous drain current ¹⁾ , $T_C=100$ °C		22.8	
Pulsed drain current ²⁾ , $T_C=25$ °C	$I_{D, pulse}$	108	A
Continuous diode forward current ¹⁾ , $T_C=25$ °C	I_S	36	A
Diode pulsed current ²⁾ , $T_C=25$ °C	$I_{S, pulse}$	108	A
Power dissipation ³⁾ , $T_C=25$ °C	P_D	261	W
Single pulsed avalanche energy ⁵⁾	E_{AS}	845	mJ
MOSFET dv/dt ruggedness, V_{DS}	dv/dt	50	V/ns
Reverse diode dv/dt, V_{DS}	dv/dt	50	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	0.48	°C/W
Thermal resistance, junction-ambient ⁴⁾	R	62	°C/W

Electrical Characteristics at $T_j=25$ unless otherwise specified

Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		3231		pF	$V_{GS}=0\text{ V}$, $V_{DS}=50\text{ V}$, Hz
Output capacitance	C_{oss}		223.8		pF	
Reverse transfer capacitance	C_{rss}		2.2		pF	
Turn-on delay time	$t_{d(on)}$		40.2		ns	$V_{GS}=10\text{ V}$, $V_{DS}=400\text{ V}$, $R_G=2.5$ $I_D=16\text{ A}$
Rise time	t_r		29.4		ns	
Turn-off delay time	$t_{d(off)}$		87.2		ns	
Fall time	t_f		8.4		ns	

Gat7 68/ang (en-US)>BDC ø41.92i(Ga)-5(t7 68/ang (en-US)>BDC*n9e) /P /MCID 2/ang (en neDC

Test circuits and waveforms

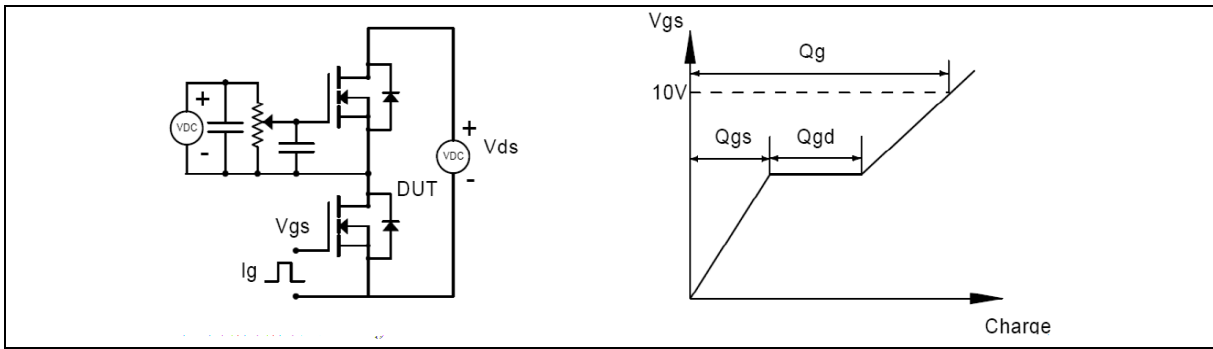


Figure 1. Gate charge test circuit & waveform



Figure 2. Switching time test circuit & waveforms

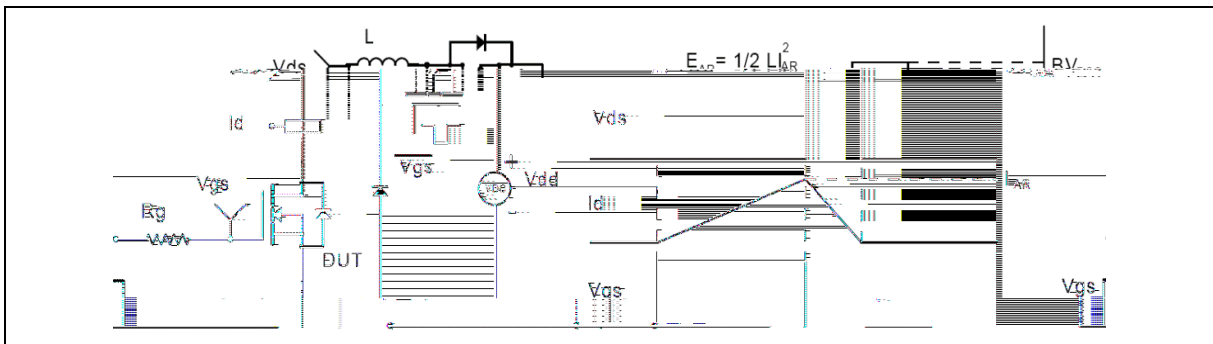


Figure 3. Unclamped inductive switching (UIS) test circuit & waveforms

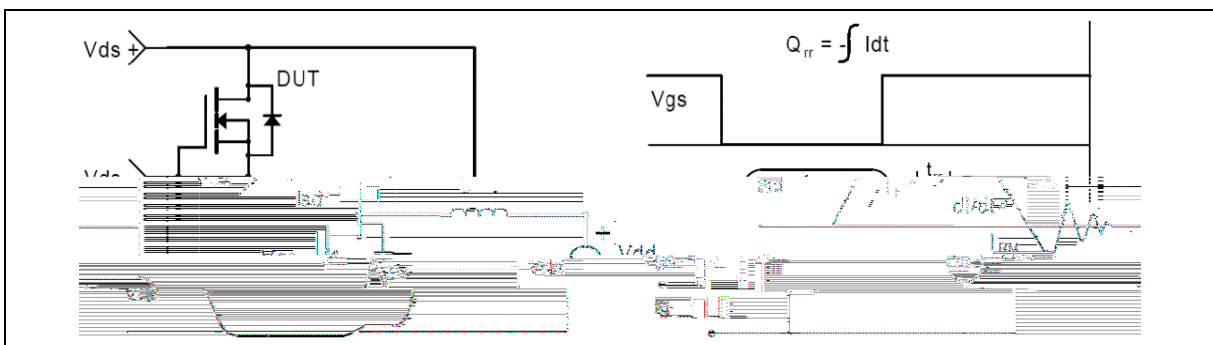
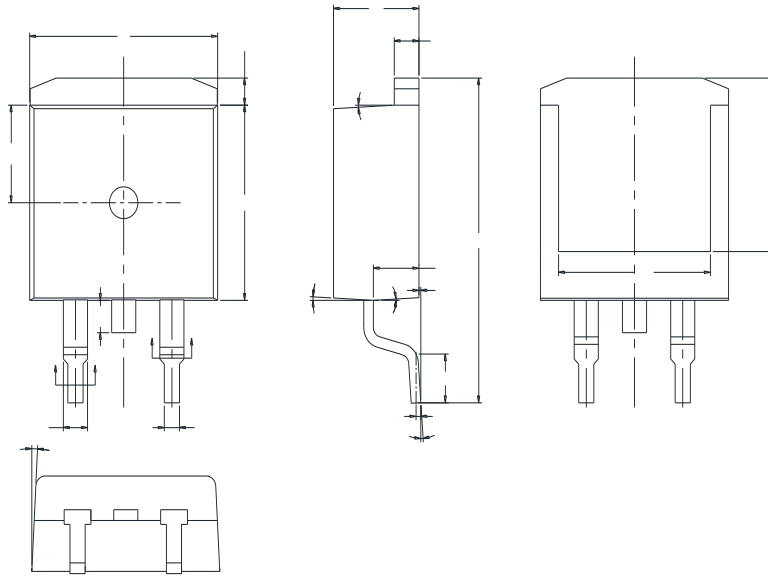


Figure 4. Diode reverse recovery test circuit & waveforms

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: 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
OSG60R099KEZF	TO263	yes	yes	yes

