

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.

-

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	15	A
Continuous drain current ¹⁾ , $T_C=100$ °C		9.5	
Pulsed drain current ²⁾ , $T_C=25$ °C	$I_{D, pulse}$	45	A
Continuous diode forward current ¹⁾ , $T_C=25$ °C	I_S	15	A
Diode pulsed current ²⁾ , $T_C=25$ °C	$I_{S, pulse}$	45	A
Power dissipation ³⁾ , $T_C=25$ °C	P_D	83	W
Single pulsed avalanche energy ⁵⁾	E_{AS}	144	mJ
MOSFET dv/dt ruggedness, V_{DS} 480 V	dv/dt	50	V/ns
Reverse diode dv/dt, V_{DS} 480 V, I_{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	1.51	°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
-----------	--------	------	------	------	------	----------------

Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}				pF	$V_{GS}=0\text{ V}$, $V_{DS}=50\text{ V}$, 00 kHz
Output capacitance	C_{oss}		57		pF	
Reverse transfer capacitance	C_{rss}		2		pF	

Electrical Characteristics Diagrams

<p>Figure 1. Typ. output characteristics</p>	<p>Figure 2. Typ. transfer characteristics</p>
<p>Figure 3. Typ. capacitances</p>	<p>Figure 4. Typ. gate charge</p>
<p>Figure 5. Drain-</p>	

Figure 5. Drain-

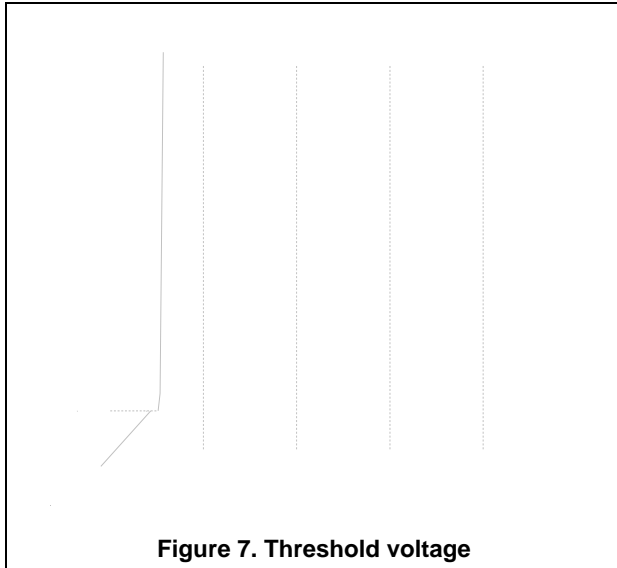


Figure 7. Threshold voltage

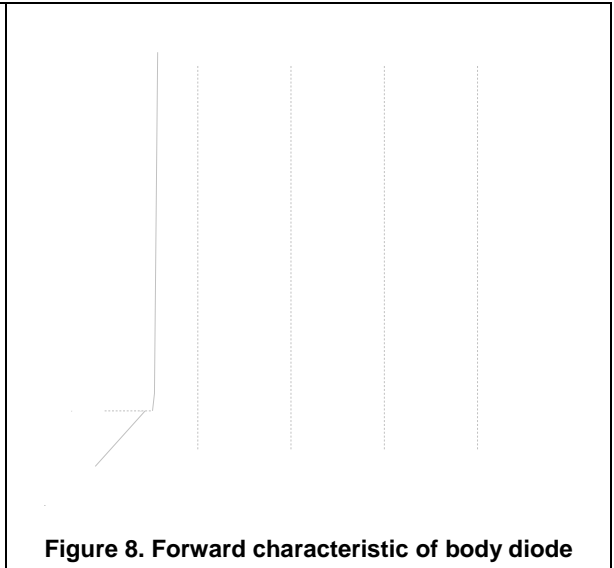


Figure 8. Forward characteristic of body diode

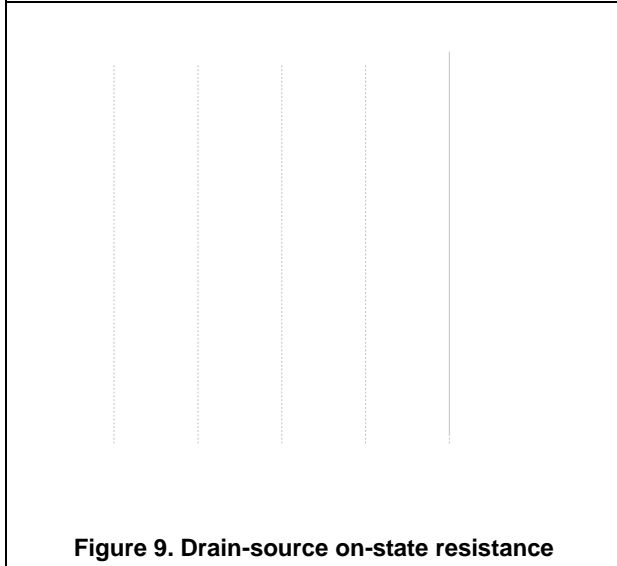


Figure 9. Drain-source on-state resistance

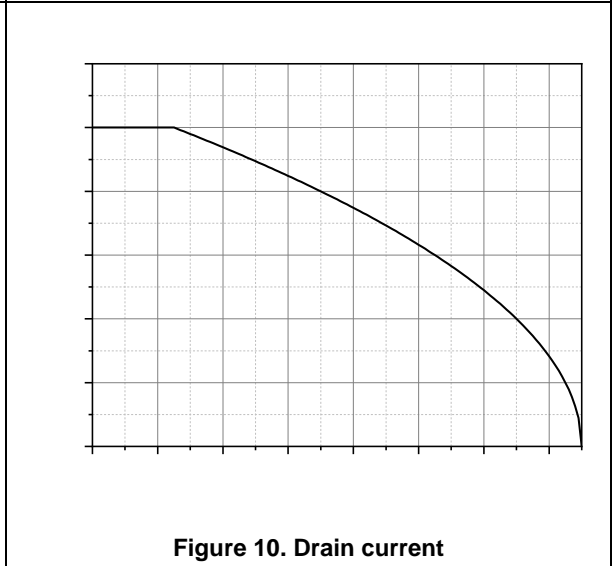


Figure 10. Drain current

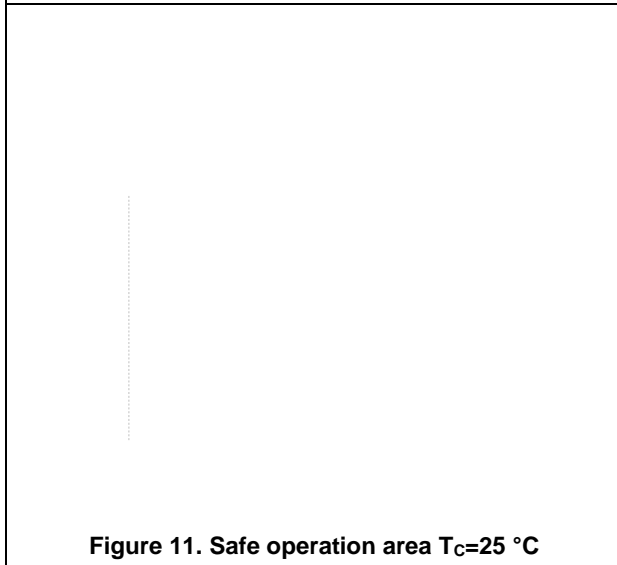


Figure 11. Safe operation area $T_c=25^\circ\text{C}$

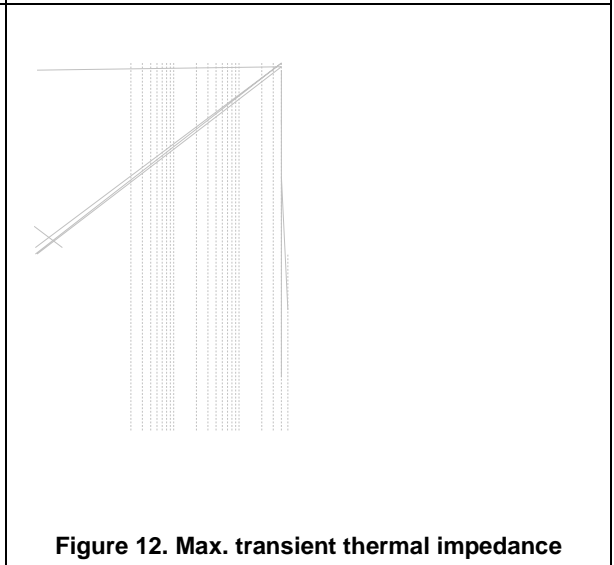


Figure 12. Max. transient thermal impedance

Test circuits and waveforms

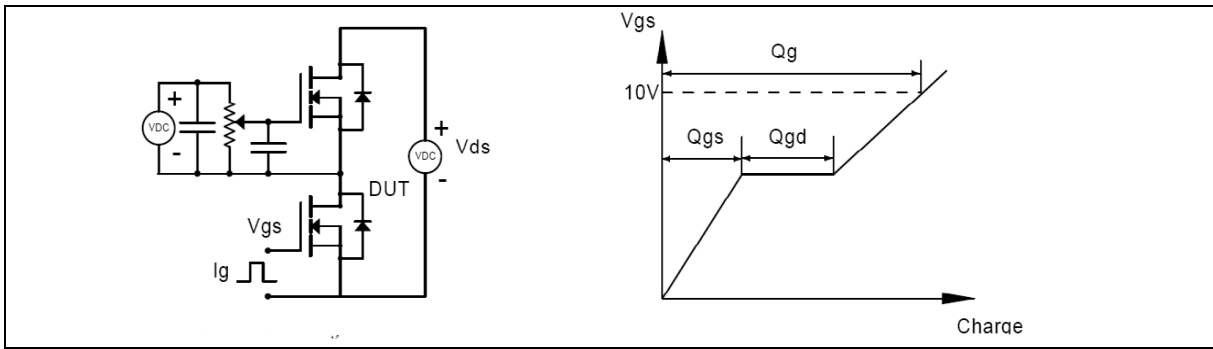


Figure 1. Gate charge test circuit & waveform



Figure 2. Switching time test circuit & waveforms

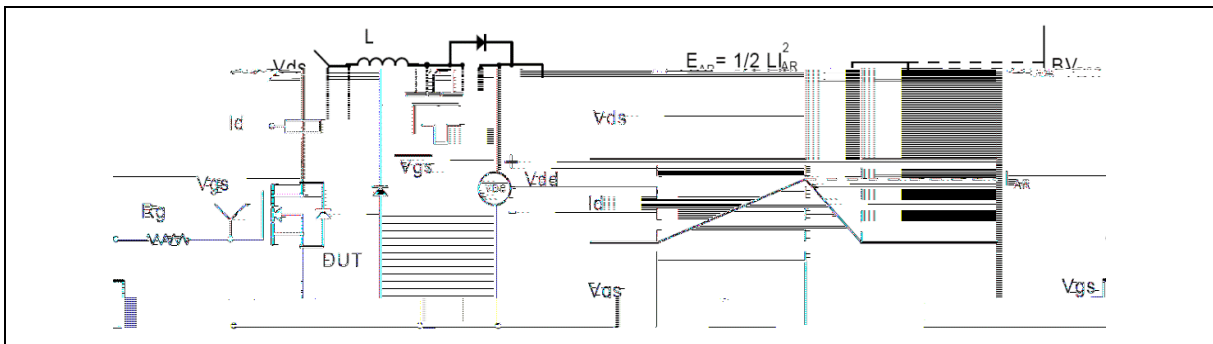
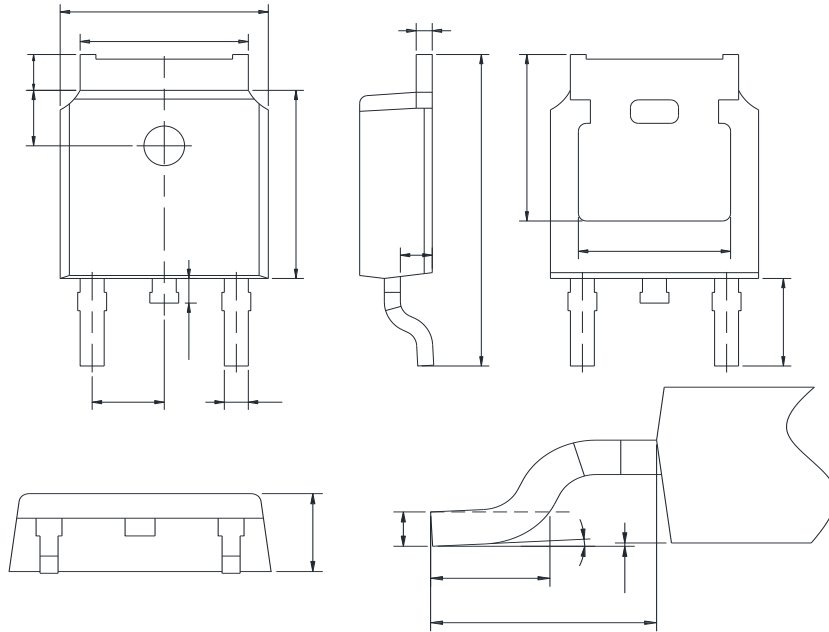


Figure 3. Unclamped inductive switching (UIS) test circuit & waveforms



Figure 4. Diode reverse recovery test circuit & waveforms

Package Information



Symbol	mm		
	Min	Nom	Max
A	2.20	2.30	2.38
A1	0.00	-	0.20
A2	0.97	1.07	1.17
b	0.68	0.78	0.90
b3	5.20	5.33	5.46
c	0.43	0.53	0.61
D	5.98	6.10	6.22
D1	5.30REF		
E	6.40	6.60	6.73
E1	4.63	-	-
e	2.286BSC		
H	9.40	10.10	10.50
L	1.38	1.50	1.75
L1	2.90REF		
L2	0.51BSC		
L3	0.88	-	1.28
L4	0.50	-	1.00
	0	-	

Version 1: TO252-C package outline dimension

Ordering Information

Package Type	Units/ Reel	Reels/ Inner Box	Units/ Inner Box	Inner Boxes/ Carton Box	Units/
-------------------------	------------------------	-----------------------------	-----------------------------	------------------------------------	---------------