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.

GreenMOS®

RoHS

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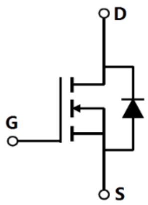
Parameter	Value	Unit
$V_{DS, min}$ @ $T_{j(max)}$	650	V
$I_{D, pulse}$	24	A
$R_{DS(ON), max}$ @ V_{GS}=10V	580	
Q_g	9.5	nC

Product Name	Package	Marking
OSG60R580PF	TO220	OSG60R580P



Absolute Maximum Ratings at T_j=25 unless otherwise noted

Parameter	Symbol	Value	Unit

Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		464		pF	V_{GS}=0 V, V_{DS}=50 V, Hz
Output capacitance	C_{oss}		38.3		pF	
Reverse transfer capacitance	C_{rss}		1.47		pF	
Turn-on delay time	$t_{d(on)}$		18		ns	V_{GS}=10 V, V_{DS}=380 V, R_G=25 I_D=8 A
Rise time	t_r		18		ns	
Turn-off delay time	$t_{d(off)}$		27		ns	
Fall time	t_f		22		ns	

Gate Charge Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Total gate charge						

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

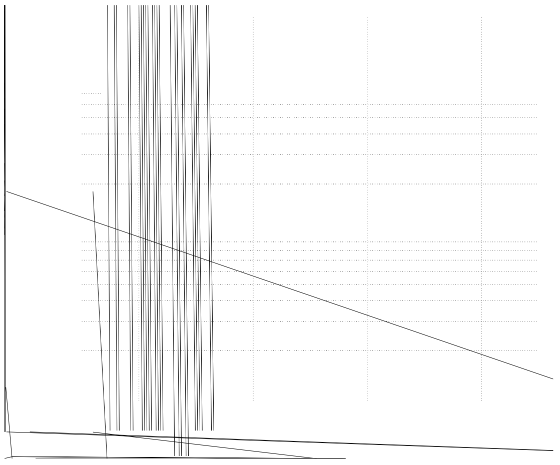


Figure 7. Forward characteristic of body diode

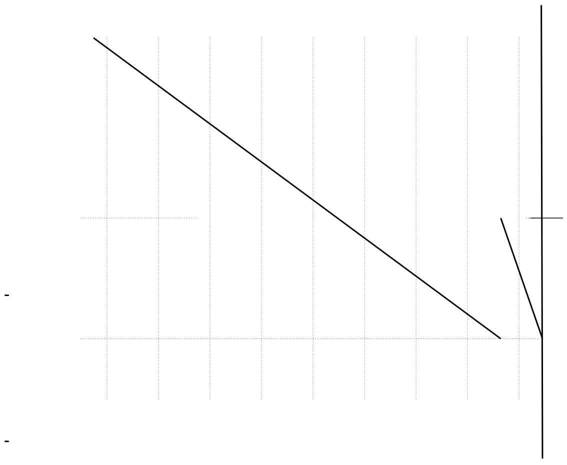


Figure 8. Drain-source on-state resistance

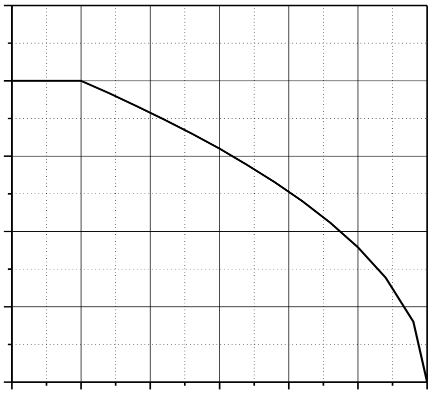


Figure 9. Drain current

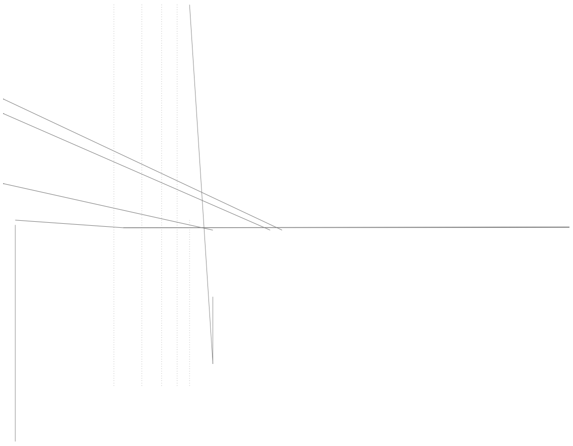


Figure 10. Safe operation area T_C=25 °C

Test circuits and waveforms

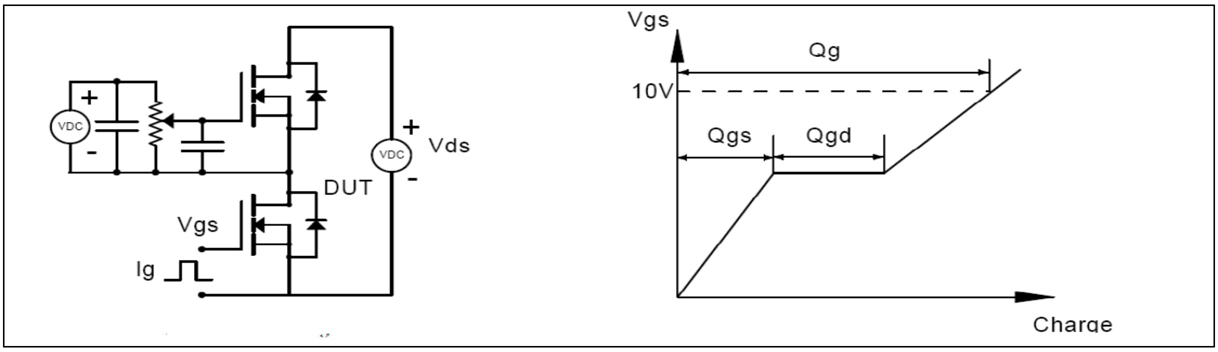


Figure 1. Gate charge test circuit & waveform

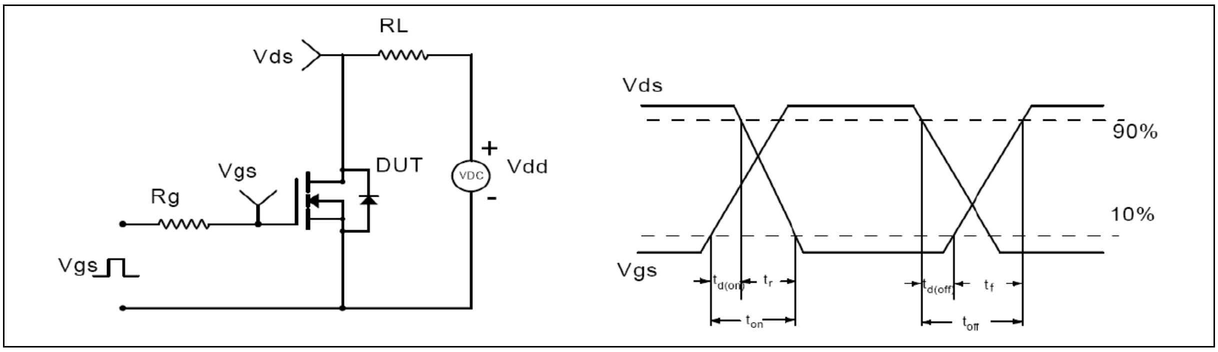


Figure 2. Switching time test circuit & waveforms

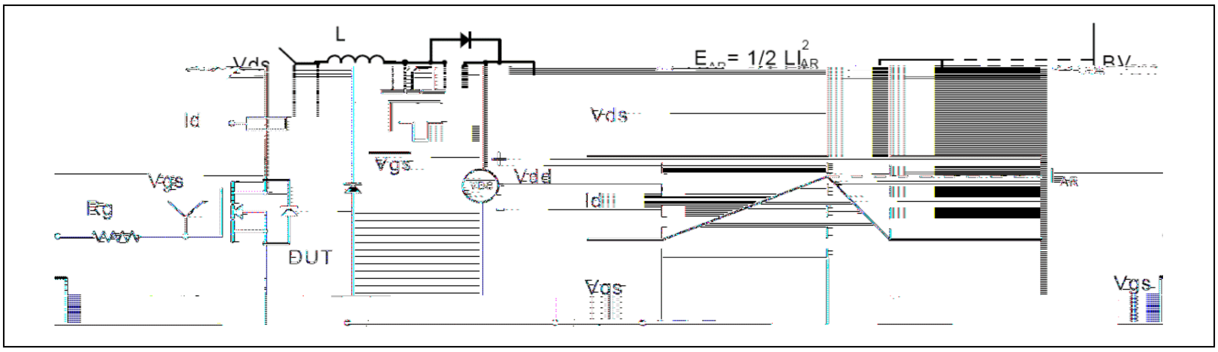


Figure 3. Unclamped inductive switching (UIS) test circuit & waveforms

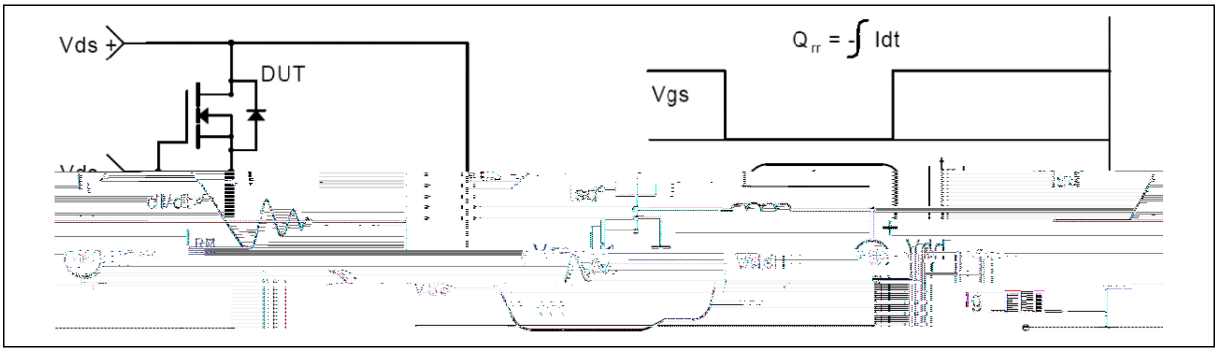
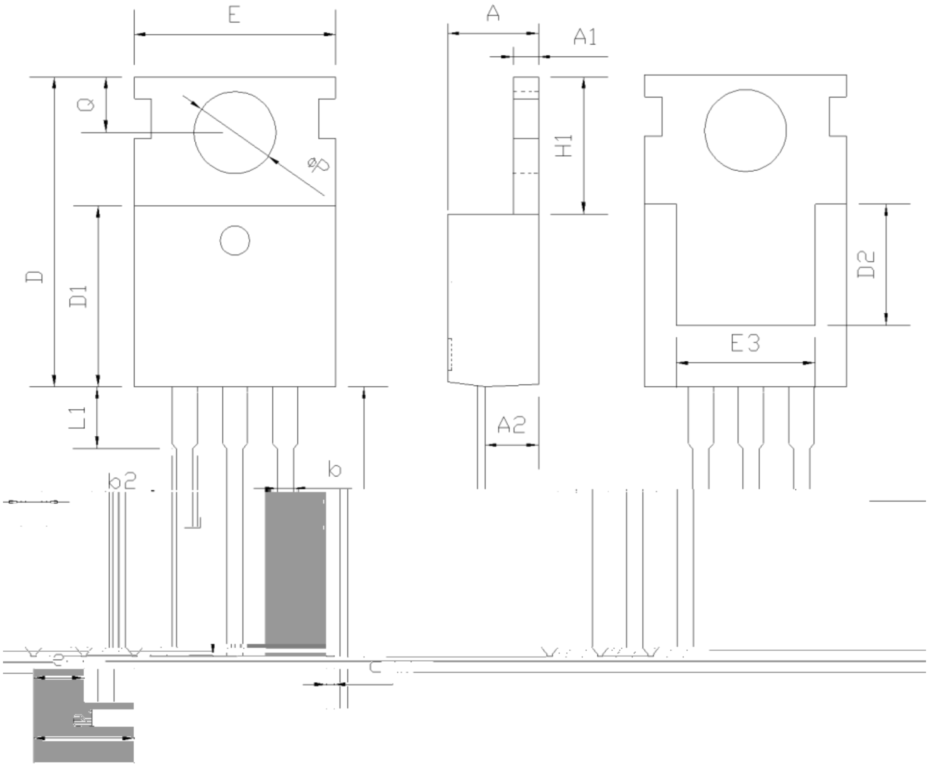


Figure 4. Diode reverse recovery test circuit & waveforms

Package Information



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<tr><th rowspan="2">Symbol</th><th colspan="3">mm</th></tr>
<tr><th>Min</th><th>Nom</th><th>Max</th></tr>
<tr><td>A</td><td>4.37</td><td>4.57</td><td>4.77</td></tr>
<tr><td>A1</td><td>1.25</td><td>1.30</td><td>1.45</td></tr>
<tr><td>A2</td><td>2.20</td><td>2.40</td><td>2.60</td></tr>
<tr><td>b</td><td>0.70</td><td>0.80</td><td>0.95</td></tr>
<tr><td>b2</td><td>1.17</td><td>1.27</td><td>1.47</td></tr>
<tr><td>c</td><td>0.40</td><td>0.50</td><td>0.65</td></tr>
<tr><td>D</td><td>15.10</td><td>15.60</td><td>16.10</td></tr>
<tr><td>D1</td><td>8.80</td><td>9.10</td><td>9.40</td></tr>
<tr><td>D2</td><td>5.50</td><td>-</td><td>-</td></tr>
<tr><td>E</td><td>9.70</td><td>10.00</td><td>10.30</td></tr>
<tr><td>E3</td><td>7.00</td><td>-</td><td>-</td></tr>
<tr><td>e</td><td colspan="3">2.54BSC</td></tr>
<tr><td>e1</td><td colspan="3">5.08BSC</td></tr>
<tr><td>H1</td><td>6.25</td><td>6.50</td><td>6.85</td></tr>
<tr><td>L</td><td>12.75</td><td>13.50</td><td>13.80</td></tr>
<tr><td>L1</td><td>-</td><td>3.10</td><td>3.40</td></tr>
<tr><td></td><td>3.40</td><td>3.60</td><td>3.80</td></tr>
<tr><td>Q</td><td>2.60</td><td>2.80</td><td>3.00</td></tr>
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Version1: TO220-P package outline dimension

Ordering Information

Package Type	Units/ Tube	Tubes / Inner Box	Units/ Inner Box	Inner Box/ Carton Box	Units/ Carton Box
TO220-P	50	20	1000	6	6000

Product Information

Product	Package	Pb Free	RoHS	Halogen Free
OSG60R580PF	TO220	yes	yes	yes

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