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

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	650	V
Gate-source voltage	V_{GS}	±30	V
Continuous drain current[1], T_C=25 °C	I_D	8	A
Continuous drain current[1], T_C=100 °C		5	
Pulsed drain current[2], T_C=25 °C	$I_{D, pulse}$	24	A
Continuous diode forward current[1], T_C=25 °C	I_S	8	A
Diode pulsed current[2], T_C=25 °C	$I_{S, pulse}$	24	A

Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		464		pF	V_{GS}=0 V, V_{DS}=50 V, ¦ 0Hz
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	Q_g		9.5		nC	V_{GS}=10 V, V_{DS}=480 V, I_D=8 A
Gate-source charge	Q_{gs}		2.7		nC	
Gate-drain charge	Q_{gd}		3.8		nC	
Gate plateau voltage	$V_{plateau}$		5.6		V	

Body Diode Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Diode forward voltage	V_{SD}			1.3	V	I_S=8 A, V_{GS}=0 V
Reverse recovery time	t_{rr}		211		ns	V_R=400 V, I_S=8 A, G L G W
Reverse recovery charge	Q_{rr}		1.8		C	
Peak reverse recovery current	I_{rrm}		10.5		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 °C.
5) V_{DD}=50 V, V_{GS}=10 V, L=10.8 mH, starting T_j=25 °C.

Electrical Characteristics Diagrams

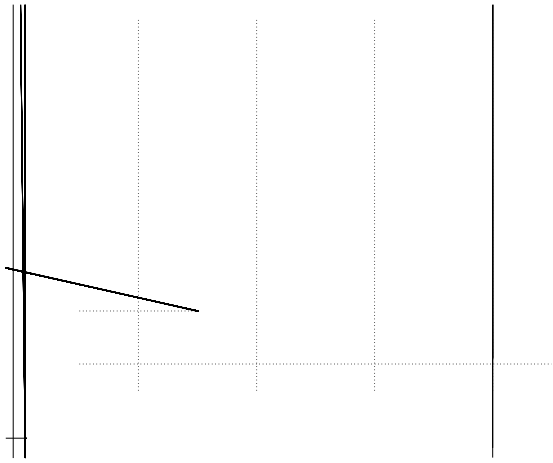

Figure 1. Typ. output characteristics

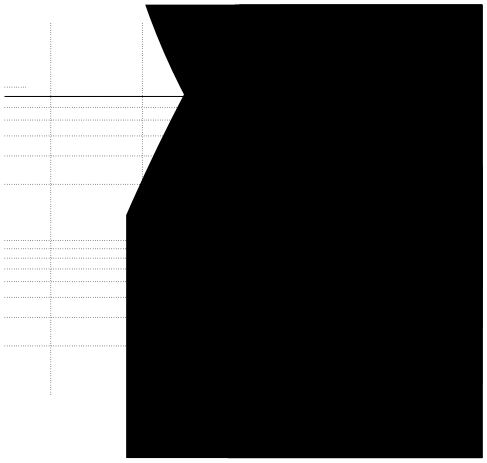

Figure 2. Typ. transfer characteristics

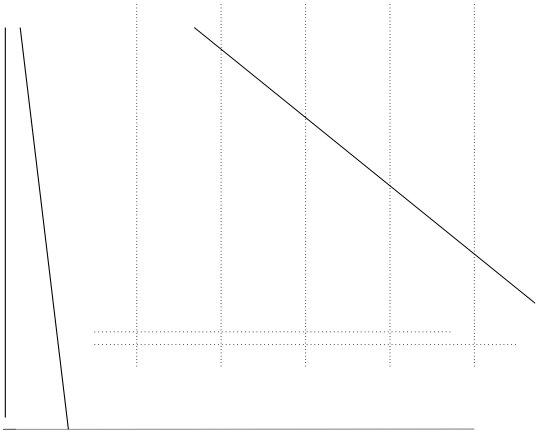

Figure 3. Typ. capacitances

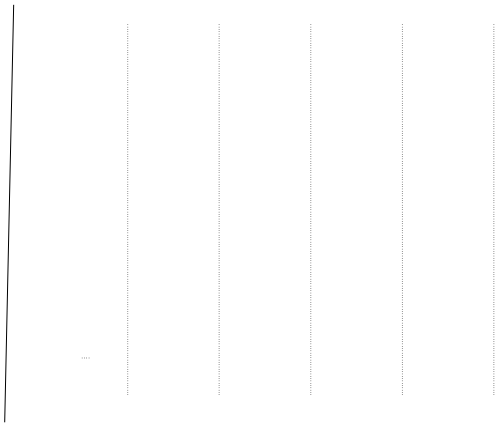

Figure 4. Typ. gate charge

Figure 5. Drain-source breakdown voltage

Figure 6. Drain-source on-state resistance

Ordering Information

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

Product Information

Product	Package	Pb Free	RoHS	Halogen Free
OSG65R580PF	TO220	yes	yes	yes

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YDOXHV KVHWUHWLHQG DQG RU DQ\ LQIRUPDWLRQ UHJ2UGLHQJWDKOH DSS
6HPLFRQGXFWRUV DQ\ DQG DOO ZDUUDQWLHV DQG OLDE
ZLWKRXW OLPLWDWLRQ RI LQWHOOHFWXDO SURSH
SDUW\
)RU IXUWKHU LQIRUPDWLRQ RQ WHFKQRORJ\ GHSOHWHU
FRQWDFW 2WLWWQWDO 6HPLFRQGXFWRU ZZZRULHQWDOVHPL FRP