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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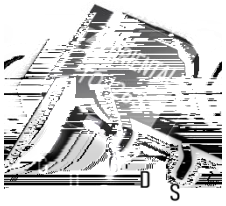
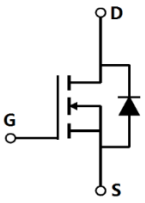
Parameter	Value	Unit
$V_{DS,\ min}$ @ $T_{j(max)}$	850	V
$I_{D,\ pulse}$	33	A
$R_{DS(ON)\ ,\ max}$ @ V_{GS}=10V	380	
Q_g	22.2	nC

Product Name	Package	Marking
OSG80R380KF	TO263	OSG80R380K





Absolute Maximum Ratings at T_j=25 unless otherwise noted

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	800	V
Gate-source voltage	V_{GS}	±30	V
Continuous drain current[1], T_C=25 °C	I_D	11	A
Continuous drain current[1], T_C=100 °C		6.9	
Pulsed drain current[2], T_C=25 °C	$I_{D, pulse}$	33	A
Continuous diode forward current[1], T_C=25 °C	I_S	11	A
Diode pulsed current[2], T_C=25 °C	$I_{S, pulse}$	6.9	A
Power dissipation[3], T_C=25 °C	P_D	151	W
Single pulsed avalanche energy[5]	E_{AS}	400	mJ
MOSFET dv/dt ruggedness, V_{DS} 640 V	dv/dt	50	V/ns
Reverse diode dv/dt, V_{DS} 640 V, I_{SD} D	dv/dt	15	V/ns

Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		1442.9		pF	V_{GS}=0 V, V_{DS}=50 V, 00 kHz
Output capacitance	C_{oss}		83.7		pF	
Reverse transfer capacitance	C_{rss}		1.9		pF	
Turn-on delay time	$t_{d(on)}$		28.4		ns	V_{GS}=10 V, V_{DS}=400 V, R_G=10 I_D=6 A
Rise time	t_r		15.8		ns	
Turn-off delay time	$t_{d(off)}$		50.2		ns	
Fall time	t_f		4.7		ns	

Gate Charge Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Total gate charge	Q_g		22.2		nC	V_{GS}=10 V, V_{DS}=400 V, I_D=6 A
Gate-source charge	Q_{gs}		6.8		nC	
Gate-drain charge	Q_{gd}		6.3		nC	
Gate plateau voltage	$V_{plateau}$		5.7		V	

Electrical Characteristics Diagrams

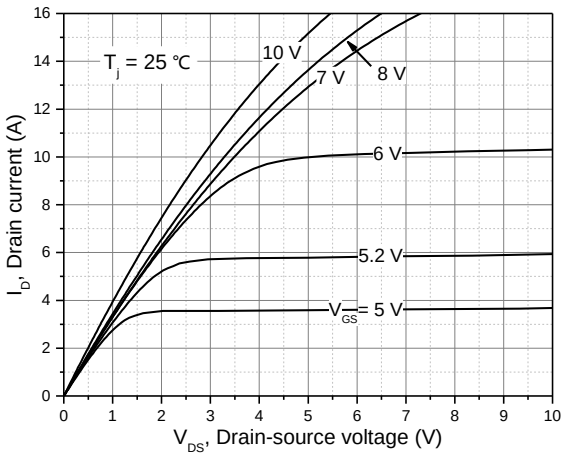


Figure 1. Typ. output characteristics

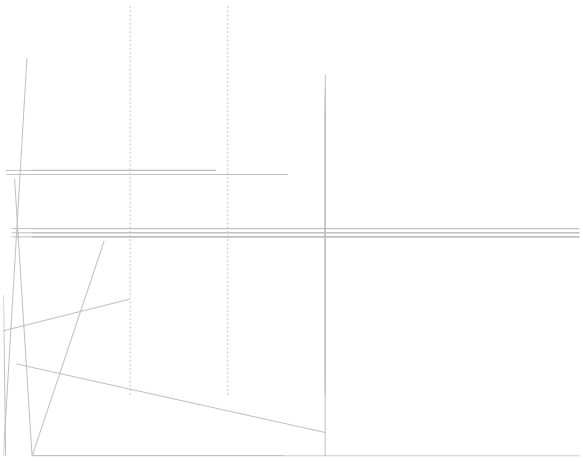


Figure 2. Typ. transfer characteristics

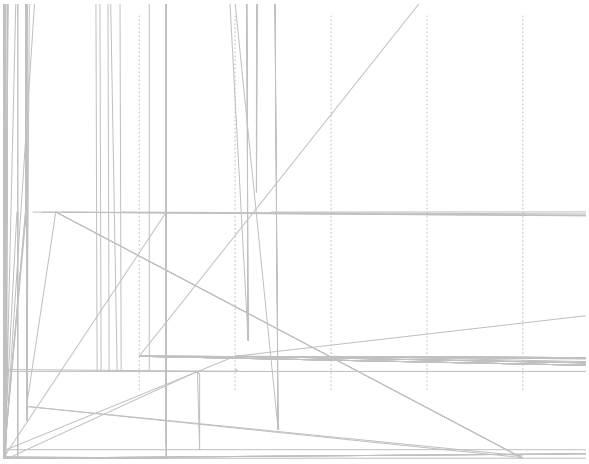


Figure 3. Typ. capacitances

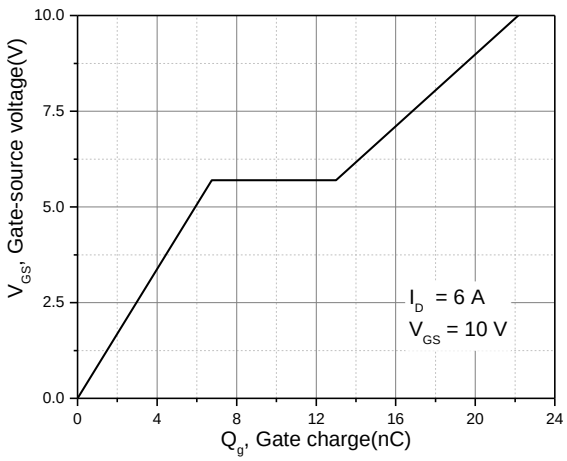


Figure 4. Typ. gate charge

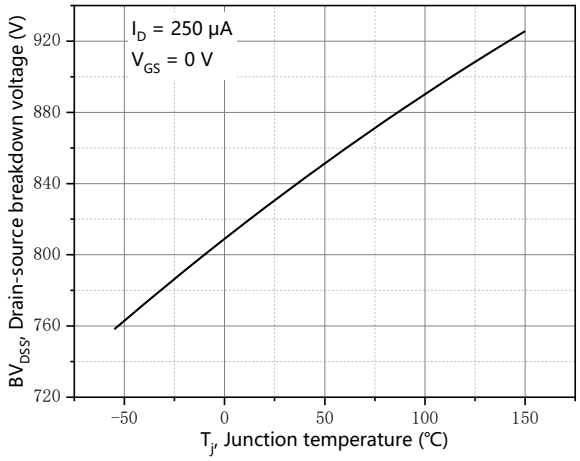


Figure 5. Drain-source breakdown voltage

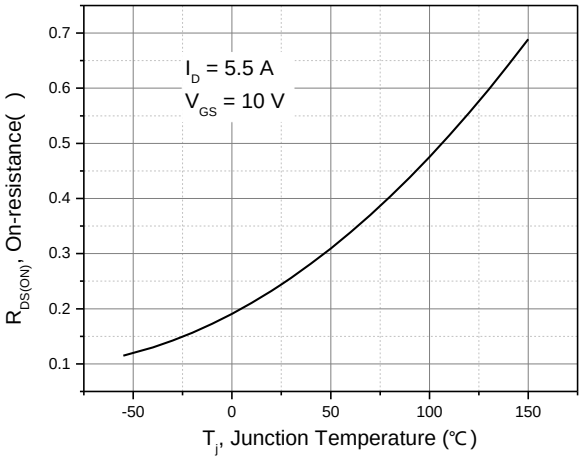


Figure 6. Drain-source on-state resistance

Ordering Information

Package Type	Units/ Reel	Reels/ Inner Box	Units/ Inner Box	Inner Boxes/ Carton Box	Units/ Carton Box
TO263-C	800	1	800	5	4000

Product Information

Product	Package	Pb Free	RoHS	Halogen Free
OSG80R380KF	TO263	yes	yes	yes

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