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N ?ú 3 TO-251 .> // x « | • 'ož N-CHANNEL MOSFET in a TO-251 Plastic Package.

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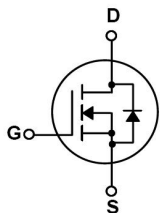
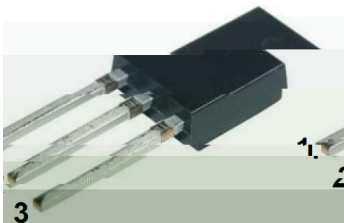
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Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching.

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Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.



PIN1 y G

PIN 2 y D

PIN 3 y S

Z Ü B , M V

• - ~ ^a ¢ ož See Marking Instructions.

④ × ? d

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@ f Parameter	... Z Symbol	f > Rating	% y Unit
Drain-Source Voltage	V_{DSS}	20	V
Drain Current ^G	$I_D(T_C=25^\circ C)$	30	A
	$I_D(T_C=100^\circ C)$	20	A
Drain Current - Pulsed ^C	I_{DM}	120	A
Maximum Body-Diode Continuous Current ^G	I_S	30	A
Gate-Source Voltage	V_{GS}	±12	V
Avalanche Current ^C	I_{AS}	12	A
Avalanche energy L=0.5mH ^C	E_{AS}	115	mJ
Power Dissipation ^B	$P_D(T_C=25^\circ C)$	100	W
	$P_D(T_C=100^\circ C)$	50	W
Power Dissipation ^A	$P_{DSM}(T_A=25^\circ C)$	2.5	W
	$P_{DSM}(T_A=70^\circ C)$	1.6	W
Junction and Storage Temperature Range	$T_J \in T_{stg}$	-55 150	

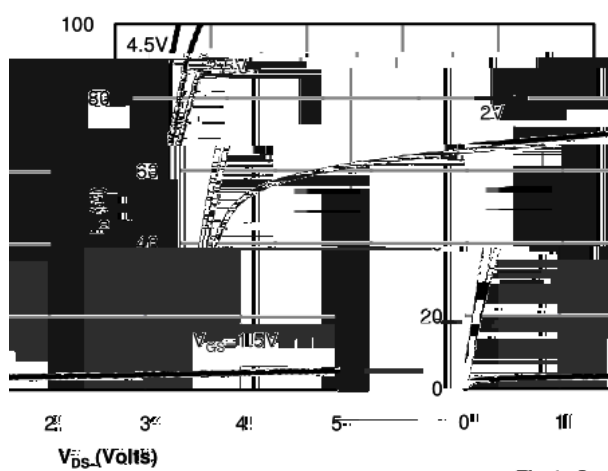
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@ f Parameter	... Z Symbol	y i Ú ^ Test Conditions	Â 4 > Min	Á ° > Typ	Â Ý > Max	% y Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250 A$	20			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V$ $V_{GS}=0V$			1.0	A
		$T_J=55^\circ C$			5.0	A
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 12V$ $V_{DS}=0V$			±0.1	A
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250 A$	0.4	1.0	1.2	V
Static Drain-Source On-Resistance	$R_{DS(on)1}$	$V_{GS}=10V$ $I_D=30A$		10	13	m
	$R_{DS(on)2}$	$V_{GS}=4.5V$ $I_D=15A$		11	14	m
Diode Forward Voltage	V_{SD}	$I_S=30A$ $V_{GS}=0V$		0.9	1.35	V

	@ f Parameter	... Z Symbol	y i Ú ^ Test Conditions	Â 4 › Min	Á ° › Typ	Â Ý › Max	% y Unit
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Region Characteristics

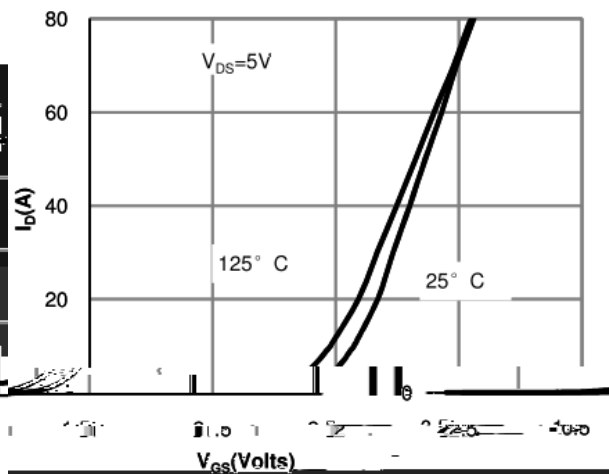


Figure 2: Transfer Characteristics

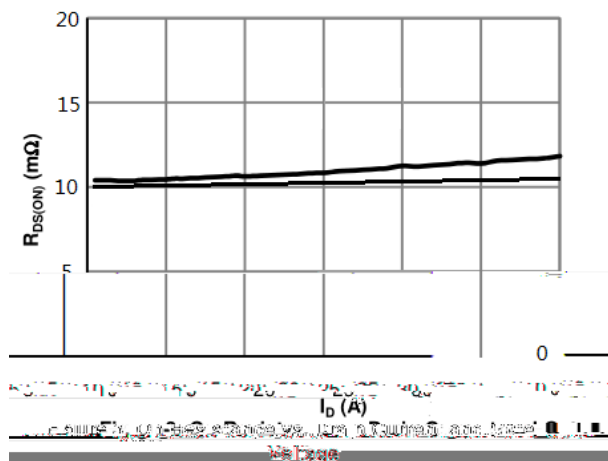


Figure 3: On-Resistance vs. Gate-Source Voltage

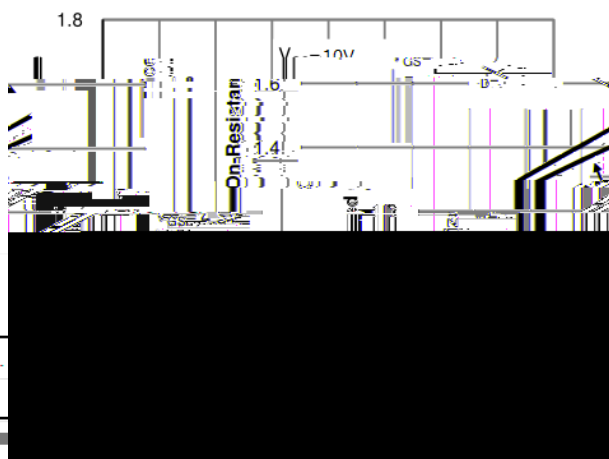
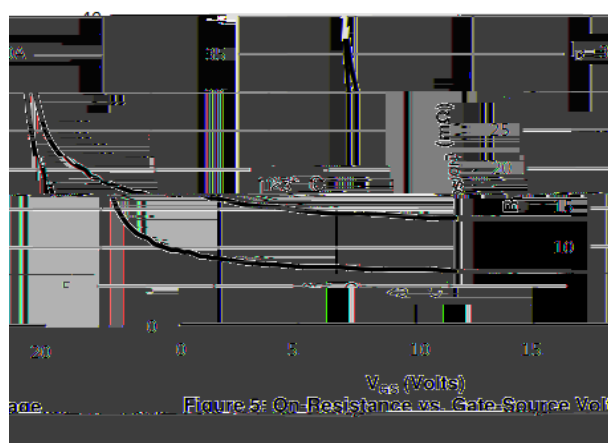


Figure 5: On-Resistance vs. Gate-Source Voltage

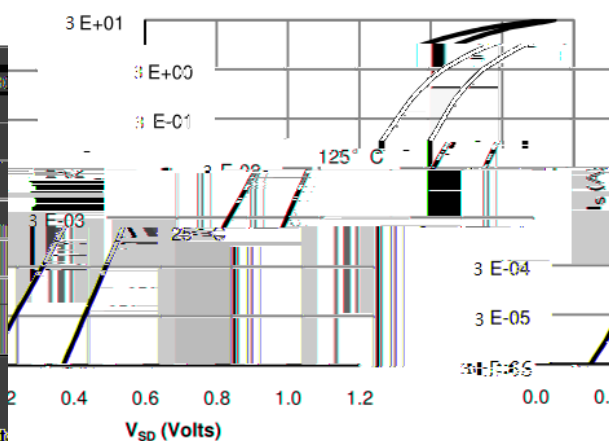
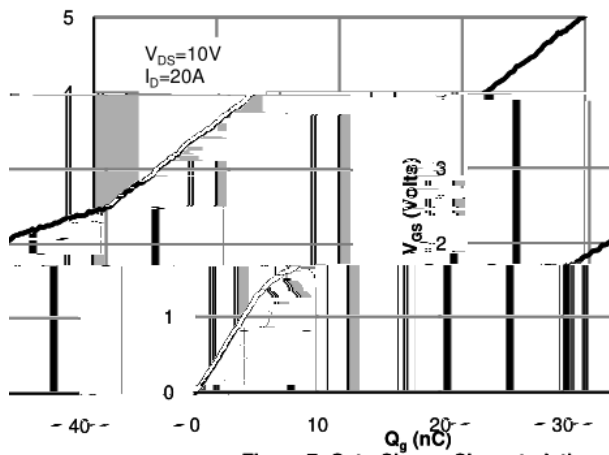
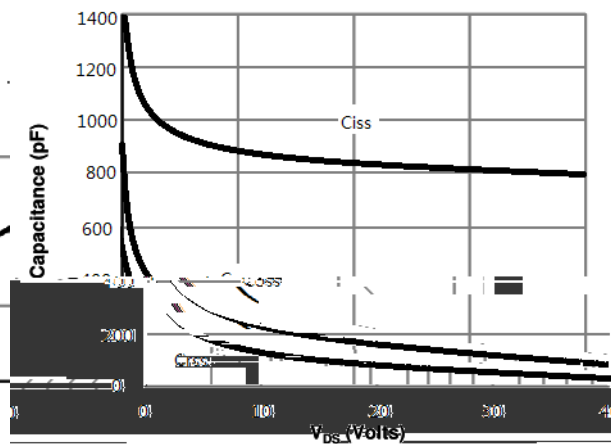
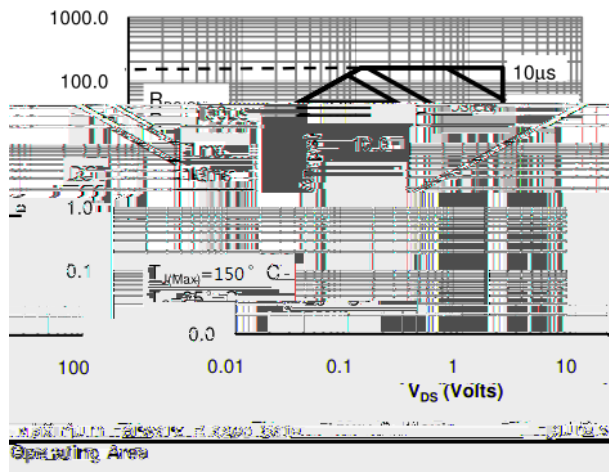
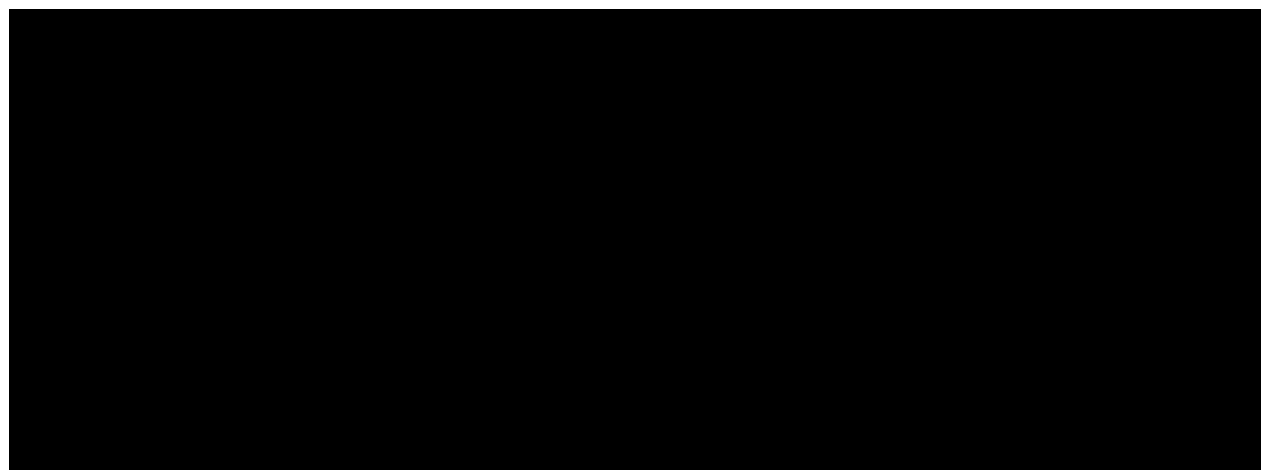
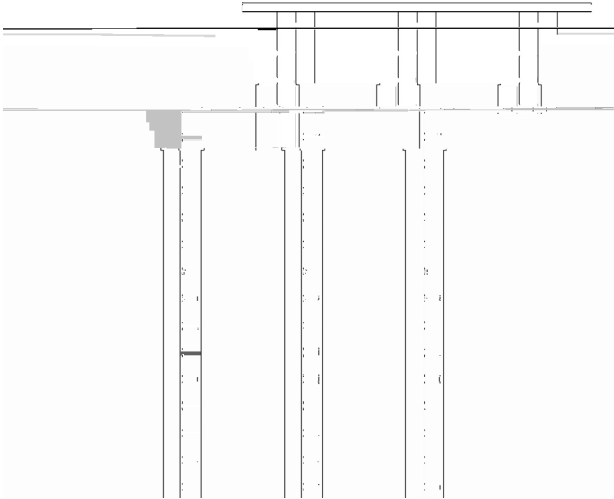


Figure 6: Body Diode Characteristics

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30N02 y ° Z W A
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Note:
BR: Company Code
30N02: Product Type Code.
****: Lot No. Code, code change with Lot No.

Rev.A Sep.-2018

