TO-252 .> / / x 6 ?ú 3 MOS « | • 'ož 6 -CHANNEL MOSFET in a TO-252 Plastic Package.

8* 9 U ┬4 k y > z k) X Y4 k • ¼ , † ½ož

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

*ü b " _+ CÃ V Ö"QE:+ CÃ Ã DC/DC E@ 6 Ã " ã { •,X+ $dP¬ E@ 6 Ä

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

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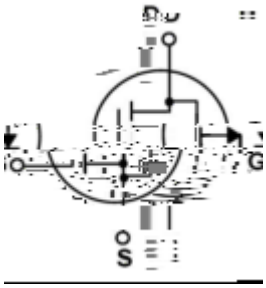


PIN1 y G PIN 2 y D PIN 3 y S PIN 4 y D

Z Ü B , M V / h_{FE} Classifications & Marking

• - ~ ª ¢ož

@ ƒ Parameter	… Z Symbol	ƒ › Rating	% y Unit
Drain-Source Voltage	V_{DSS}	-100	V
Drain Current	I_D(Tc=25)	-30	A
Drain Current	I_D(Tc=100)	-21.5	A
Drain Current - Pulsed [C]	I_{DM}	-80	A
Gate-Source Voltage	V_{GS}	±20	V
Avalanche Current [C]	I_{AS}	-27.0	A
Avalanche energy L=0.5mH [C]	E_{AS}	291.6	mJ
Power Dissipation [B]	P_D(Tc=25)	53.5	W
	P_D(Tc=100)	26.5	W
Power Dissipation [A]	P_{DSM}(T_A=25)	2.5	W
	P_{DSM}(T_A=70)	1.6	W
Junction and Storage Temperature Range	$T_{j\,È}T_{stg}$	-55 150	

@ ƒ Parameter	… Z Symbol	y ¡ Ú ^ Test Conditions	Â 4 › Min	Á º › Typ	Â Ý › Max	% y Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=-250 A	-100			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-100V V_{GS}=0V			-1.0	A
		V_{DS}=-100V V_{GS}=0V T_J=55°C			-5.0	A
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±20V V_{DS}=0V			±0.1	A
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250 A	-1	-1.7	-3	V
Static Drain-Source On-Resistance	$R_{DS(on)1}$	V_{DS}				

@ ƒ Parameter	… Z Symbol	y ¡ Ú ^ Test Conditions	Â 4 › Min	Á º › Typ	Â Ý › Max	% y Unit
Input Capacitance	C_{iss}	V_{DS}=-25V V_{GS}=0V f=1.0MHz		5110		pF
Output Capacitance	C_{oss}			198		
Reverse Transfer Capacitance	C_{rss}			131		
Gate resistance	R_g	V_{GS}=0V V_{DS}=0V f=1MHz		3.87		
Total Gate Charge	Q_g(10V)	V_{GS}=-10V V_{DS}=-50V I_D=-20A		16.5	25	nC
Total Gate Charge	Q_g(4.5V)			7	12	
Gate Source Charge	Q_{gs}			4.5		
Gate Drain Charge	Q_{gd}			2.5		
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=-10V V_{DS}=-50V R_L=2.5 R_{GEN}=23		7		ns
Turn-On Rise Time	t_r			8		
Turn-Off Delay Time	$t_{d(off)}$			20		
Turn-Off Fall Time	t_f			3		
Body Diode Reverse Recovery Time	t_{rr}	I_F=-20A dI/dt=500A/ms		30		ns
Body Diode Reverse Recovery Charge	Q_{rr}	I_F=-20A dI/dt=500A/ms		145		nC

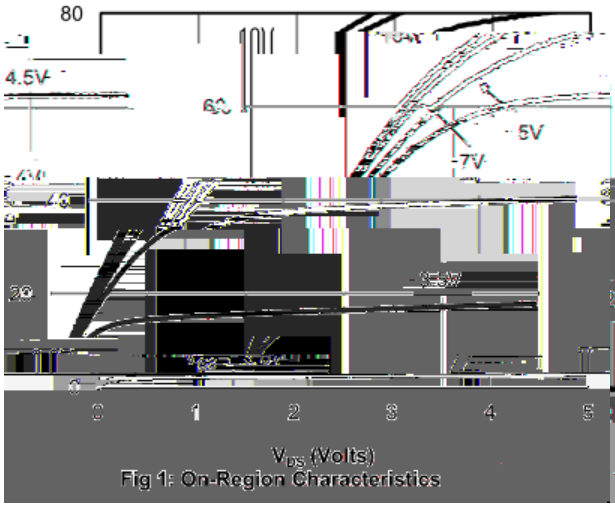
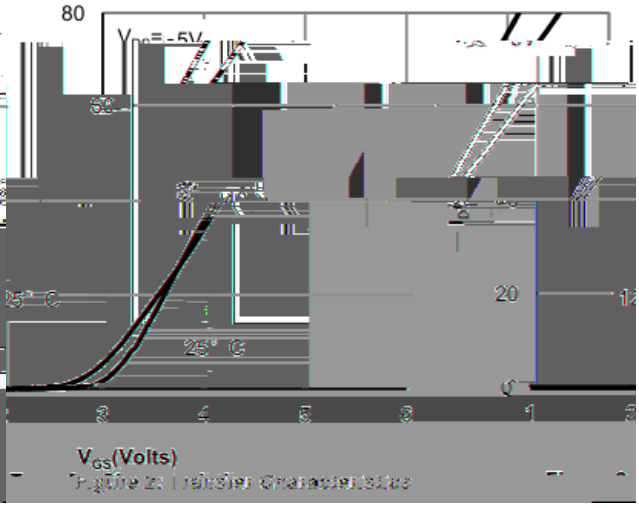


Fig 1: On-Region Characteristics



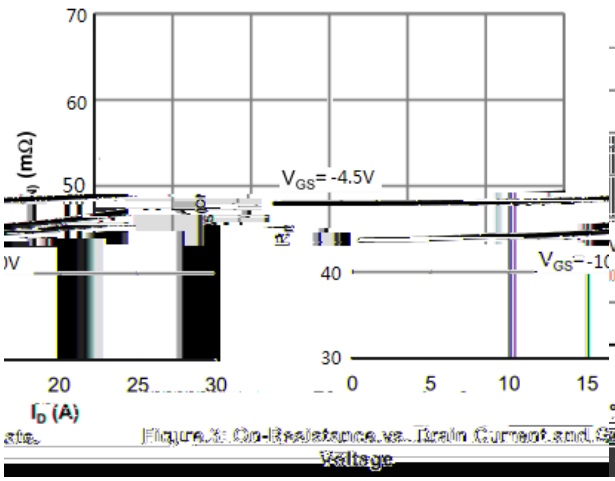
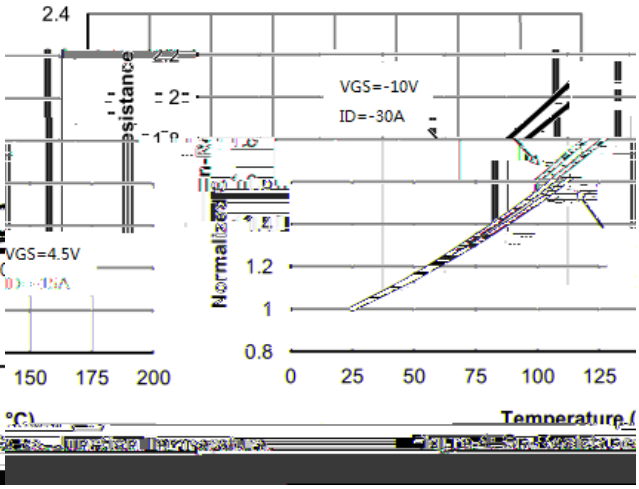


Figure 3: On-Resistance vs. Drain Current and Gate Voltage



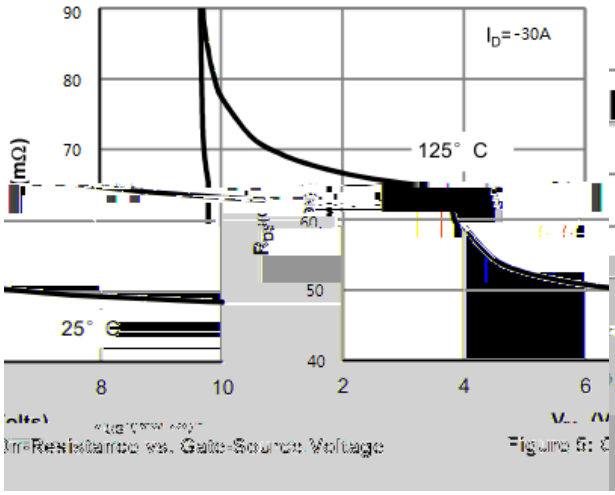


Figure 5: On-Resistance vs. Gate-Source Voltage

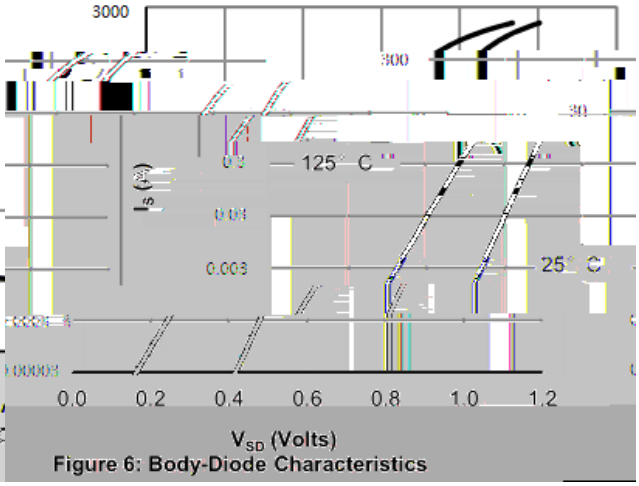
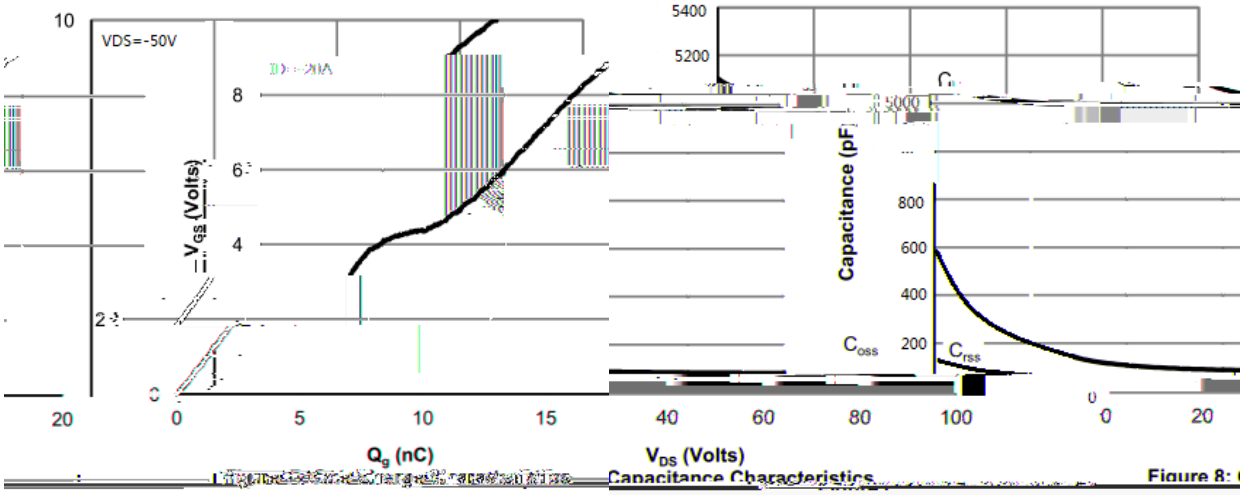
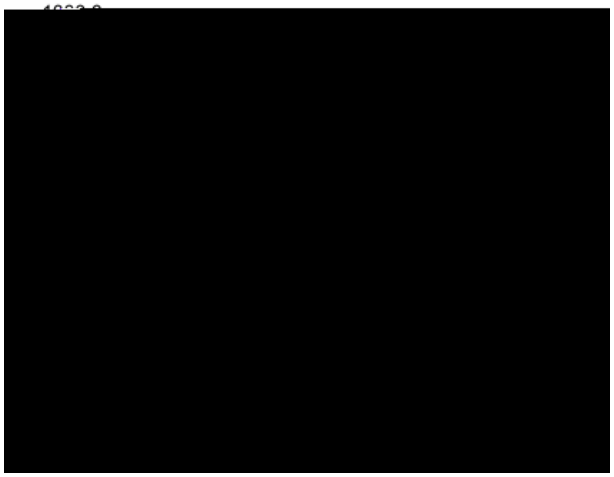


Figure 6: Body-Diode Characteristics

Ô ? d • Ž ¢ / Electrical Characteristic Curve



Capacitance Characteristics Figure 8:

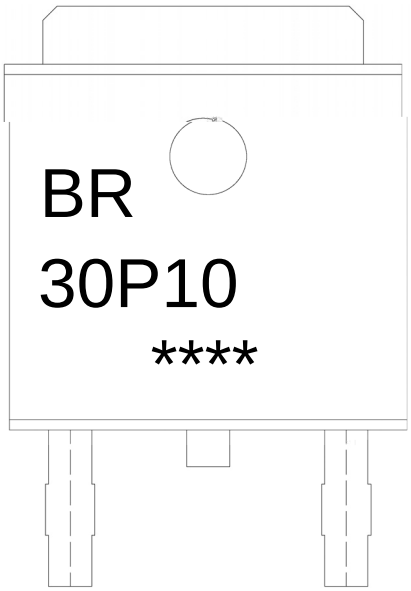


Ø ¤ =) ¢ / Package Dimensions

0.90				
0.10	D1	5.10	5.50	K	0.00

TO-252

, M y ƒ / Marking Instructions



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BR y ¸ [W A

30P10 y º Z W A

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Note:

BR: Company Code

30P10: Product Type Code.

****: Lot No. Code, code change with Lot No.