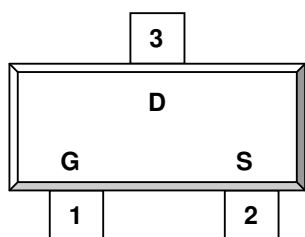


DESCRIPTION

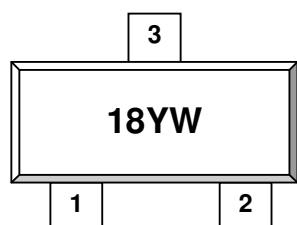
HM2318B is the N-Channel logic enhancement mode power field effect transistor is produced using high cell density, DMOS trench technology. This high density process is especially tailored to minimize on-state resistance. These devices are particularly suited for low voltage application such as cellular phone and notebook computer power management, other battery powered circuits, and low in-line power loss are needed in a very small outline surface mount package.

PIN CONFIGURATION SOT-23



1.Gate 2.Source 3.Drain

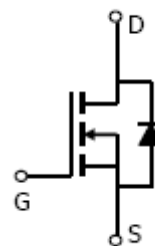
PART MARKING SOT-23



Y: Year Code W: Week Code

FEATURE

- 40V/3.9A, $R_{DS(ON)} = 42m\Omega$ (Typ.) @VGS = 10V
- 40V/3.5A, $R_{DS(ON)} = 53m\Omega$ @VGS = 4.5V
- 40V/2.0A, $R_{DS(ON)} = 75 m\Omega$ @VGS = 2.5V
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- SOT-23 package design



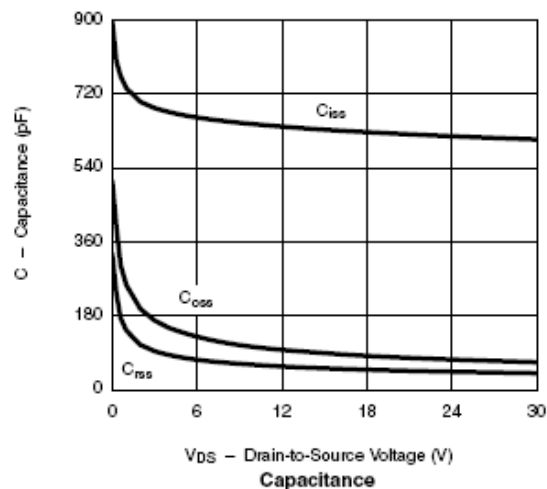
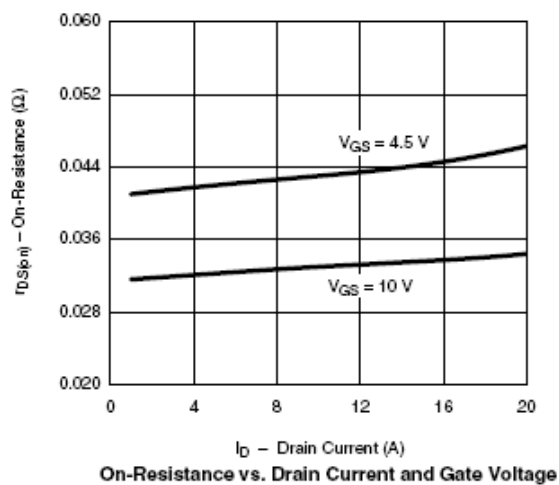
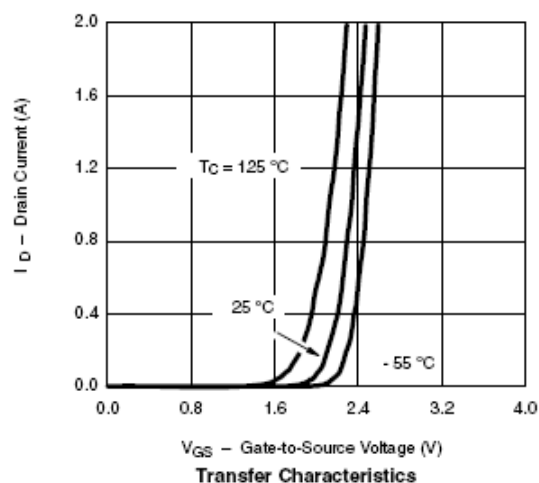
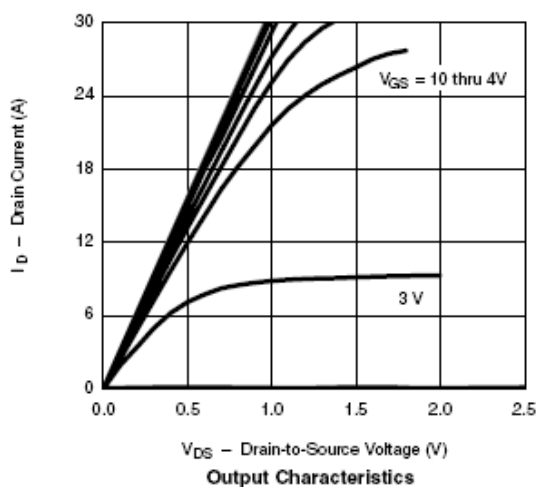
ABSOLUTE MAXIMUM RATINGS (Ta = 25°C Unless otherwise noted)

Parameter		Symbol	Typical	Unit
Drain-Source Voltage		V _{DSS}	40	V
Gate-Source Voltage		V _{GSS}	±20	V
Continuous Drain Current	T _J =150°C T _A =25°C T _A =70°C	I _D	3.9 3.0	A
Pulsed Drain Current		I _{DM}	10	A
Continuous Source Current (Diode Conduction)		I _S	1.20	A
Power Dissipation	T _A =25°C T _A =70°C	P _D	1.20 0.8	W
Operation Junction Temperature		T _J	150	°C
Storage Temperature Range		T _{STG}	-55/150	°C
Thermal Resistance-Junction to Ambient		R _{θJA}	100	°C/W

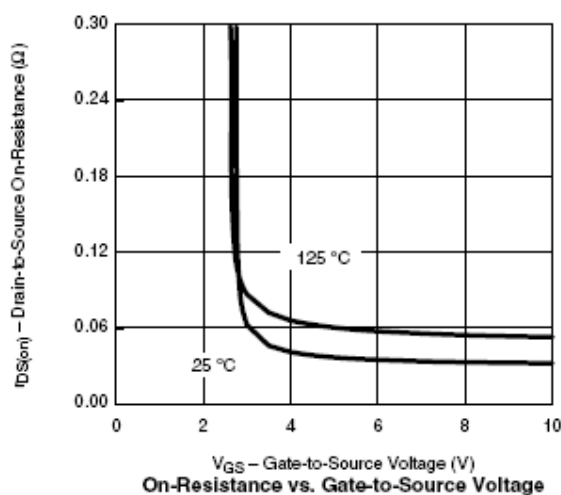
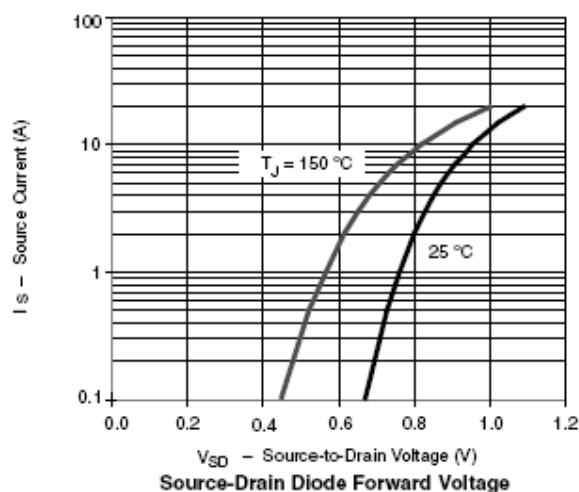
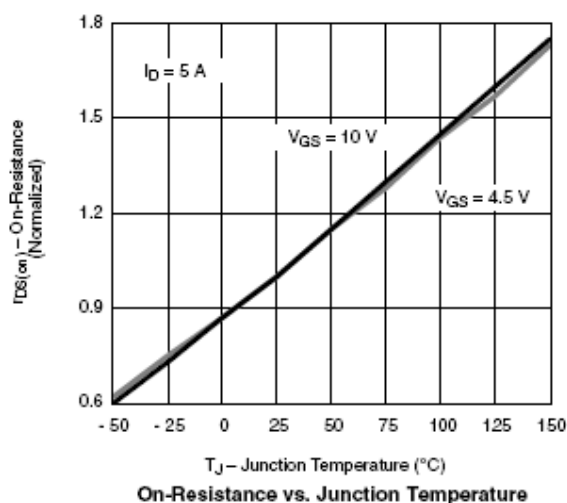
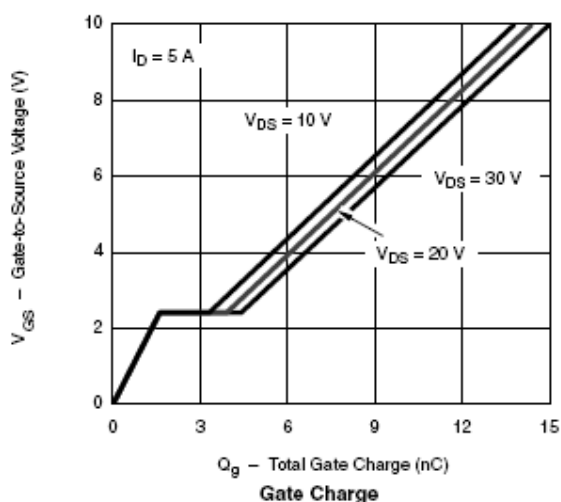
ELECTRICAL CHARACTERISTICS (Ta = 25°C Unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V,I _D =250uA	40			V
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} ,I _D =250uA	0.50		1.2	V
Gate Leakage Current	I _{GSS}	V _{DS} =0V,V _{GS} =±20V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =40V,V _{GS} =0V			1	uA
		V _{DS} =40V,V _{GS} =0V T _J =85°C			5	
Drain-source On-Resistance	R _{DS(on)}	V _{GS} =10V,I _D =3.9A V _{GS} =4.5V,I _D =3.5A V _{GS} =2.5V,I _D =2.0A		0.042 0.053 0.075		Ω
Forward Transconductance	g _{fs}	V _{DS} =15V,I _D =6.2A		13		S
Diode Forward Voltage	V _{SD}	I _S =2.3A,V _{GS} =0V		0.8	1.2	V
Dynamic						
Total Gate Charge	Q _g	V _{DS} =15V V _{GS} =10V I _D ≡2.0A		16	24	nC
Gate-Source Charge	Q _{gs}			3		
Gate-Drain Charge	Q _{gd}			2.5		
Turn-On Time	t _{d(on)} tr	V _{DD} =15V R _L =15Ω I _D =1.0A V _{GEN} =10V R _G =6Ω		15	20	nS
Turn-Off Time	t _{d(off)} tf			6	12	
				10	20	
				40	80	

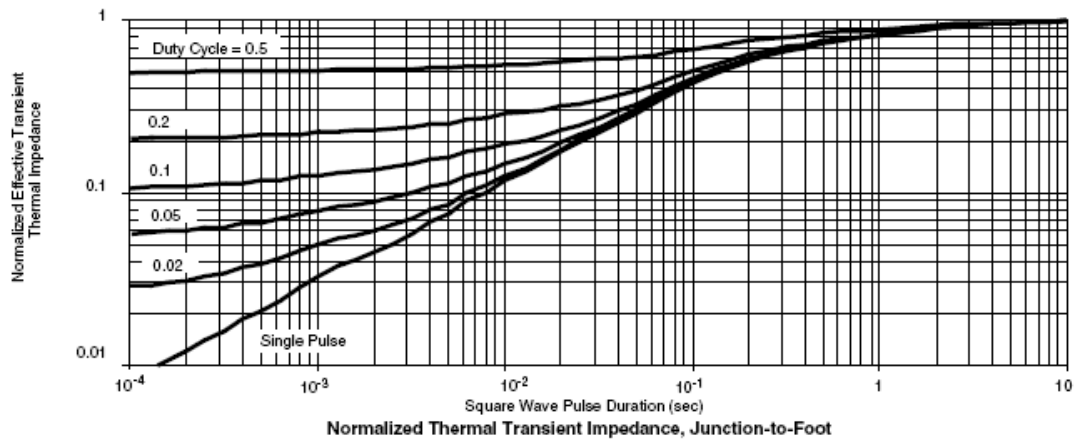
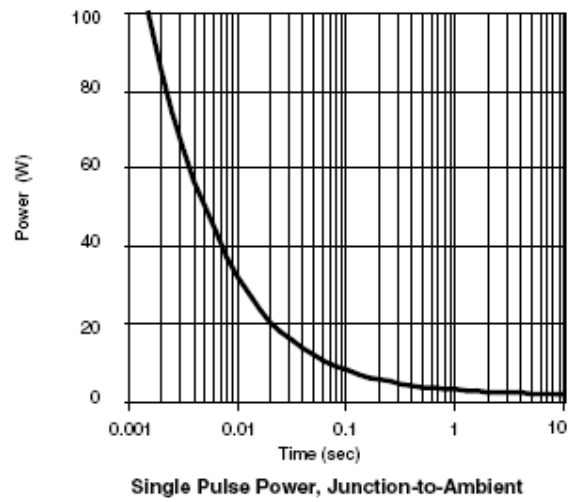
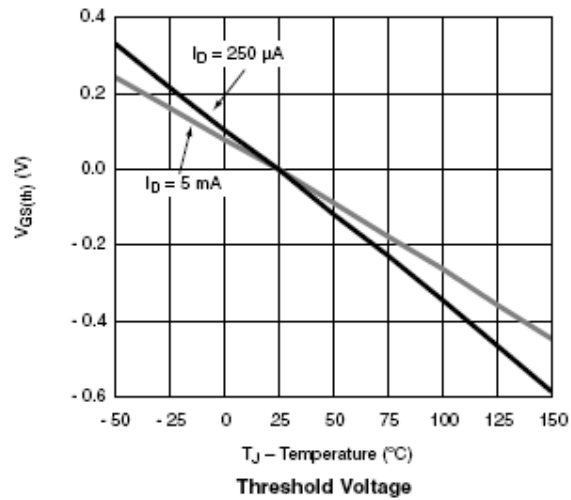
TYPICAL CHARACTERISTICS (25°C Unless noted)



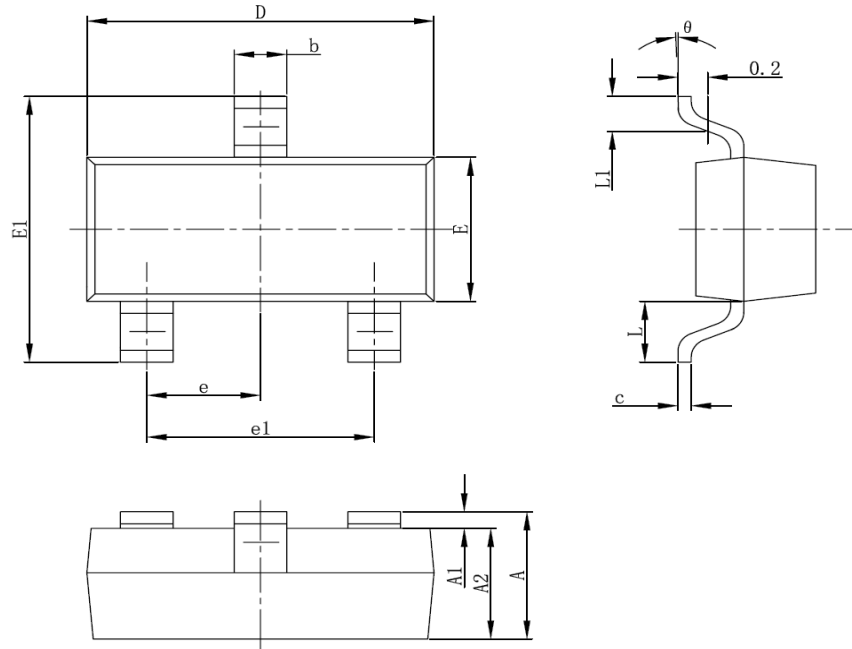
TYPICAL CHARACTERISTICS (25°C Unless noted)



TYPICAL CHARACTERISTICS (25°C Unless noted)



SOT-23 PACKAGE OUTLINE



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°