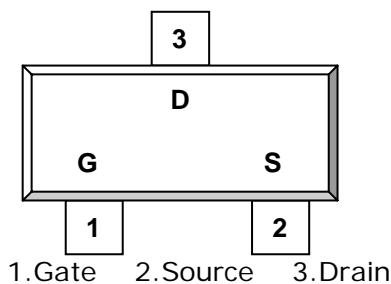
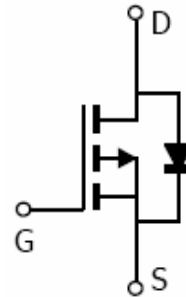
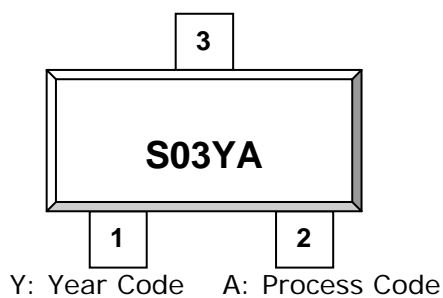


DESCRIPTION

ST2303 is the P-Channel logic enhancement mode power field effect transistor which 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 required. The product is in a very small outline surface mount package.

PIN CONFIGURATION
SOT-23-3L

FEATURE

- -30V/-2.6A, $R_{DS(ON)} = 95\text{m-ohm (Typ.)}$
@VGS = -10V
- -30V/-2.0A, $R_{DS(ON)} = 125\text{m-ohm}$
@VGS = -4.5V
- Super high density cell design for extremely low $R_{DS(ON)}$
- Exceptional on-resistance and maximum DC current capability
- SOT-23-3L package design


PART MARKING
SOT-23-3L

ORDERING INFORMATION

Part Number	Package	Part Marking
ST2303S23RG	SOT-23-3L	S03YA

※ Process Code : A ~ Z ; a ~ z

※ ST2303S23RG S : SOT-23-3L ; R : Tape Reel ; G : Pb – Free



ST2303 
Lead-free


P Channel Enhancement Mode MOSFET

-2.6A

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$ Unless otherwise noted)

Parameter	Symbol	Typical	Unit
Drain-Source Voltage	V_{DSS}	-30	V
Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current ($T_J = 150^\circ\text{C}$)	I_D	$T_A = 25^\circ\text{C}$ -2.6	A
		$T_A = 70^\circ\text{C}$ -2.0	
Pulsed Drain Current	I_{DM}	-10	A
Continuous Source Current (Diode Conduction)	I_S	-1.25	A
Power Dissipation	P_D	$T_A = 25^\circ\text{C}$ 1.25	W
		$T_A = 70^\circ\text{C}$ 0.8	
Operation Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55/150	$^\circ\text{C}$
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	100	$^\circ\text{C}/\text{W}$



ST2303 

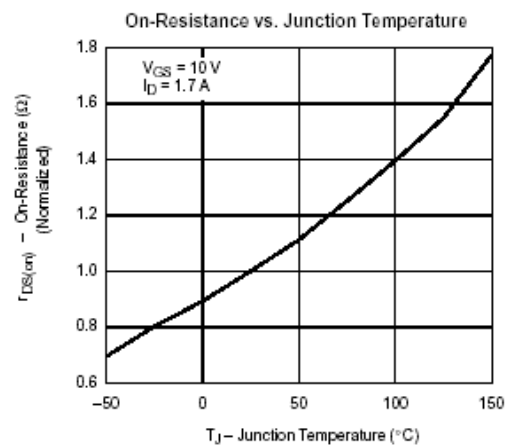
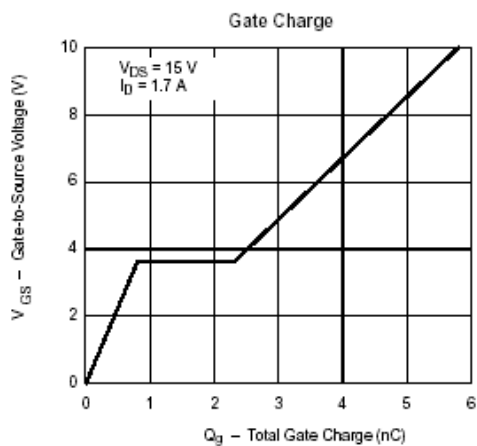
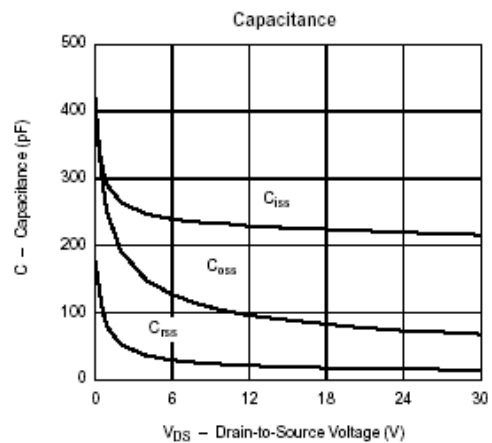
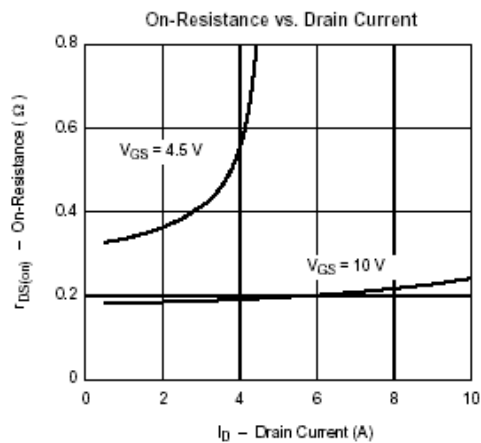
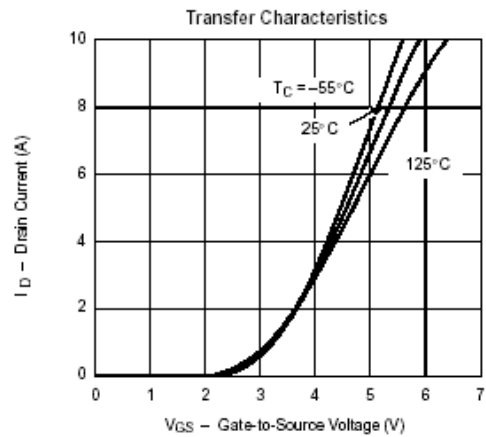
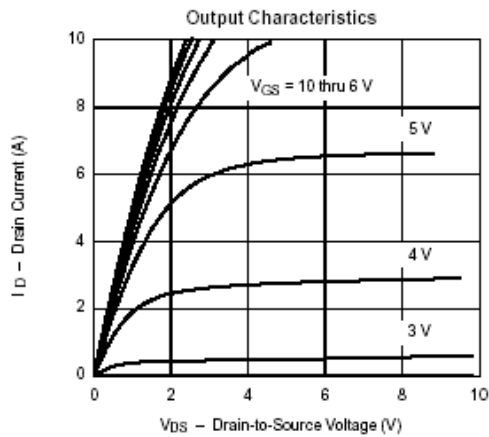
P Channel Enhancement Mode MOSFET

-2.6A

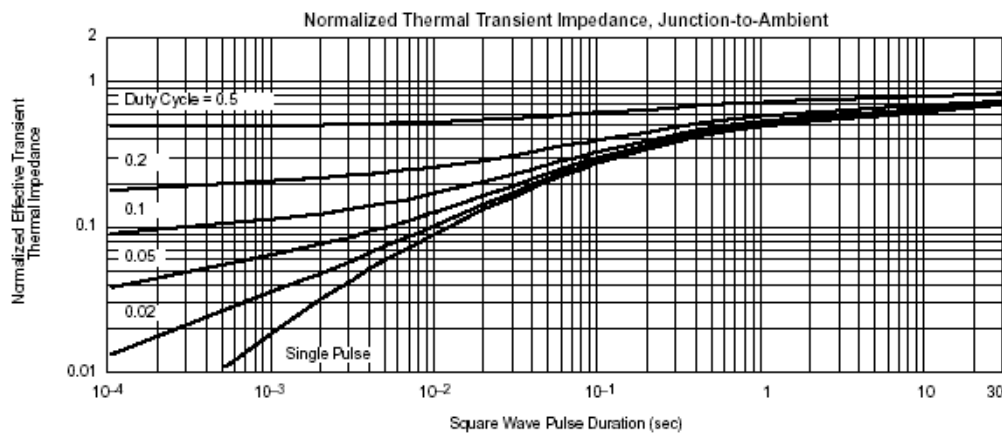
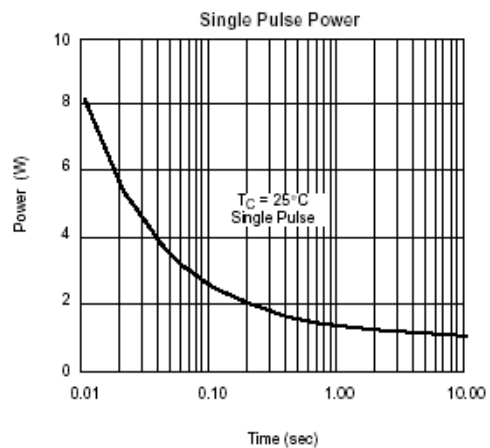
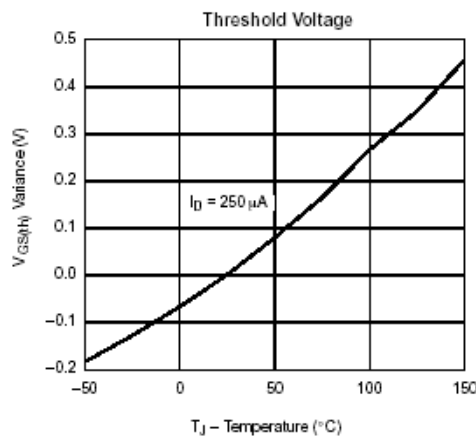
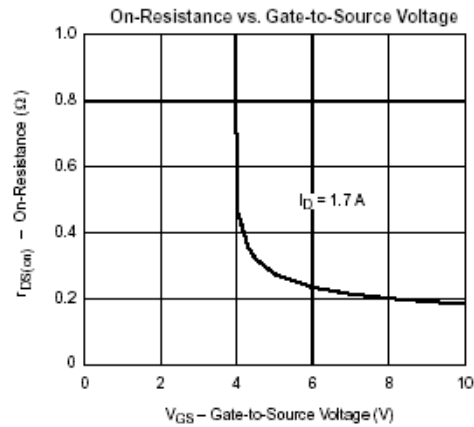
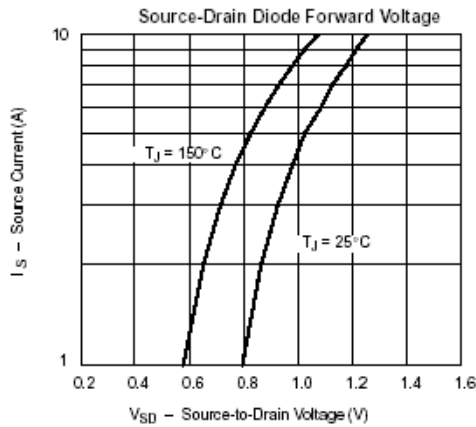
ELECTRICAL CHARACTERISTICS (Ta = 25°C Unless otherwise noted)

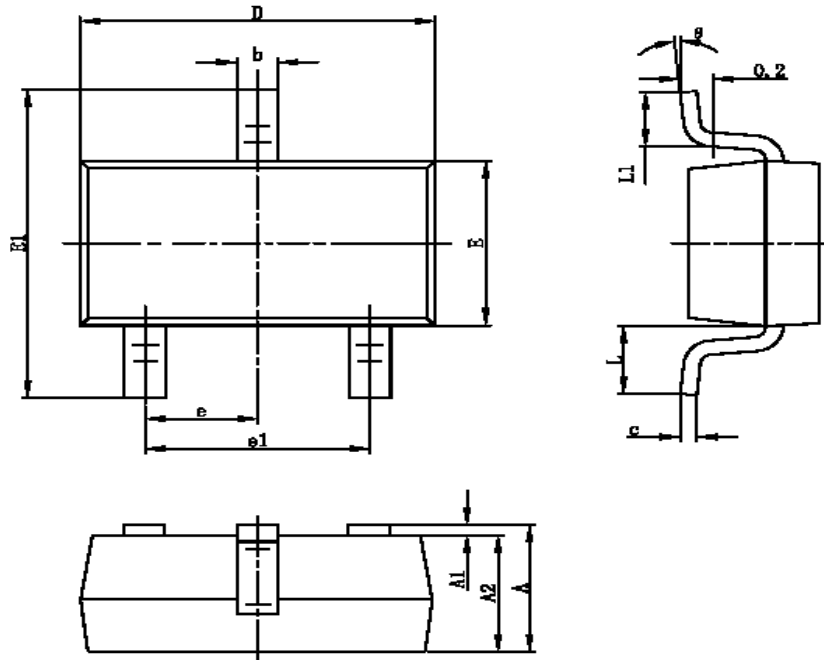
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-10\mu A$	-30			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.0		-3.0	V
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-30V, V_{GS}=0V$			-1	uA
		$V_{DS}=-30V, V_{GS}=0V$ $T_J=55^\circ C$			-10	
On-State Drain Current	$I_{D(on)}$	$V_{DS}\leq -10V, V_{GS}=-10V$	-6			A
Drain-source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-2.6A$ $V_{GS}=-4.5V, I_D=-2.0A$		0.095 0.125		Ω
Forward Transconductance	g_{fs}	$V_{DS}=-10V, I_D=-1.7V$		2.4		S
Diode Forward Voltage	V_{SD}	$I_S=-1.25A, V_{GS}=0V$		-0.8	-1.2	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=-15V$ $V_{GS}=-10V$ $I_D=-1.7A$		5.8	10	nC
Gate-Source Charge	Q_{gs}			0.8		
Gate-Drain Charge	Q_{gd}			1.5		
Input Capacitance	C_{iss}	$V_{DS}=-15V$ $V_{GS}=0V$ $F=1MHz$		226		pF
Output Capacitance	C_{oss}			87		
Reverse Transfer Capacitance	C_{rss}			19		
Turn-On Time	$t_{d(on)}$ t_r	$V_{DD}=-15V$ $R_L=15\Omega$ $I_D=-1.0A$ $V_{GEN}=-10V$ $R_G=6\Omega$		9	20	nS
Turn-Off Time	$t_{d(off)}$ t_f			9	20	
				18	35	
				6	20	

TYPICAL CHARACTERISTICS (25°C Unless noted)



TYPICAL CHARACTERISTICS (25°C Unless noted)



SOT-23-3L PACKAGE OUTLINE


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.400	0.012	0.016
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.700REF		0.028REF	
L1	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°