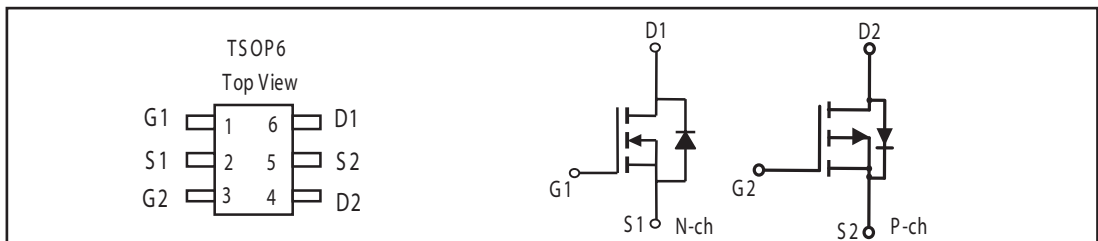


STS 2620

PRODUCT SUMMARY (N-Channel)		
V _{DSS}	I _D	R _{DS(ON)} (mΩ) Max
20V	2.5A	80 @ V _{GS} = 4.5V
		110 @ V _{GS} = 2.5V

PRODUCT SUMMARY (P-Channel)		
V _{DSS}	I _D	R _{DS(ON)} (mΩ) Max
-20V	-2A	130 @ V _{GS} = -4.5V
		190 @ V _{GS} = -2.5V



ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Parameter	Symbol	N-Channel	P-Channel	Unit
Drain-Source Voltage	V _{DS}	20	-20	V
Gate-Source Voltage	V _{GS}	±10	±10	V
Drain Current-Continuous ^a @ T _C =25°C -Pulsed ^b	I _D	2.5	-2	A
	I _{DM}	8	-7	A
Drain-Source Diode Forward Current ^a	I _S	1.25	-1.25	A
Maximum Power Dissipation ^a	P _D	1.0		W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55 to 150		°C

THERMAL CHARACTERISTICS

Thermal Resistance, Junction-to-Ambient ^a	R _{θJA}	125	°C/W
--	------------------	-----	------

STS 2620

N-Channel ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ ^c	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 16V, V_{GS} = 0V$			1	μA
Gate-Body Leakage	I_{GSS}	$V_{GS} = \pm 10V, V_{DS} = 0V$			± 100	nA
ON CHARACTERISTICS^b						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.5	0.8	1.5	V
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 2.5A$		65	80	m-ohm
		$V_{GS} = 2.5V, I_D = 2A$		90	110	m-ohm
On-State Drain Current	$I_{D(on)}$	$V_{DS} = 5V, V_{GS} = 4.5V$	6			A
Forward Transconductance	g_{FS}	$V_{DS} = 5V, I_D = 2.5A$		7		S
DYNAMIC CHARACTERISTICS^c						
Input Capacitance	C_{ISS}	$V_{DS} = 10V, V_{GS} = 0V$ $f = 1.0MHz$		223		pF
Output Capacitance	C_{OSS}			68		pF
Reverse Transfer Capacitance	C_{RSS}			53		pF
SWITCHING CHARACTERISTICS^c						
Turn-On Delay Time	$t_{D(on)}$	$V_{DD} = 10V,$ $I_D = 1A,$ $V_{GS} = 4.5V,$ $R_{GEN} = 6\text{ ohm}$		10.5		ns
Rise Time	t_r			9.8		ns
Turn-Off Delay Time	$t_{D(off)}$			15.2		ns
Fall Time	t_f			11.8		ns
Total Gate Charge	Q_g	$V_{DS} = 10V, I_D = 2.5A,$ $V_{GS} = 4.5V$		3.9		nC
Gate-Source Charge	Q_{gs}			1.3		nC
Gate-Drain Charge	Q_{gd}			0.8		nC

STS2620

P-Channel ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ ^c	Max	Unit
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	-20			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-16V, V_{GS}=0V$			1	μA
Gate-Body Leakage	I_{GSS}	$V_{GS}=\pm 10V, V_{DS}=0V$			± 100	nA
ON CHARACTERISTICS^b						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.5	-0.8	-1.5	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS}=-4.5V, I_D=-2.0A$		115	130	m-ohm
		$V_{GS}=-2.5V, I_D=-1.0A$		175	190	m-ohm
On-State Drain Current	$I_{D(ON)}$	$V_{DS}=-5V, V_{GS}=-4.5V$	-5			A
Forward Transconductance	g_{FS}	$V_{DS}=-5V, I_D=-2.0A$		6		S
DYNAMIC CHARACTERISTICS^c						
Input Capacitance	C_{ISS}	$V_{DS}=-20V, V_{GS}=0V$ $f=1.0MHz$		293		pF
Output Capacitance	C_{OSS}			65		pF
Reverse Transfer Capacitance	C_{RSS}			50		pF
SWITCHING CHARACTERISTICS^c						
Turn-On Delay Time	$t_{D(ON)}$	$V_{DD}=-10V,$ $I_D=-1A,$ $V_{GS}=-4.5V,$ $R_{GEN}=6\text{ ohm}$		12.6		ns
Rise Time	t_r			13.7		ns
Turn-Off Delay Time	$t_{D(OFF)}$			81.5		ns
Fall Time	t_f			42.1		ns
Total Gate Charge	Q_g	$V_{DS}=-10V, I_D=-2A,$ $V_{GS}=-4.5V$		3.4		nC
Gate-Source Charge	Q_{gs}			0.8		nC
Gate-Drain Charge	Q_{gd}			1		nC



STS 2620

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ ^c	Max	Unit	
DRAIN-SOURCE DIODE CHARACTERISTICS ^b							
Diode Forward Voltage	V _{SD}	V _{GS} = 0V, I _S = 1.25A	N-Ch		0.84	1.2	V
		V _{GS} = 0V, I _S = -1.25A	P-Ch		-0.85	-1.2	

Notes

- a.Surface Mounted on FR4 Board, t ≤ 10sec.
 - b.Pulse Test:Pulse Width ≤ 300 μs, Duty Cycle ≤ 2%.
 - c.Guaranteed by design, not subject to production testing.
- N-Channel