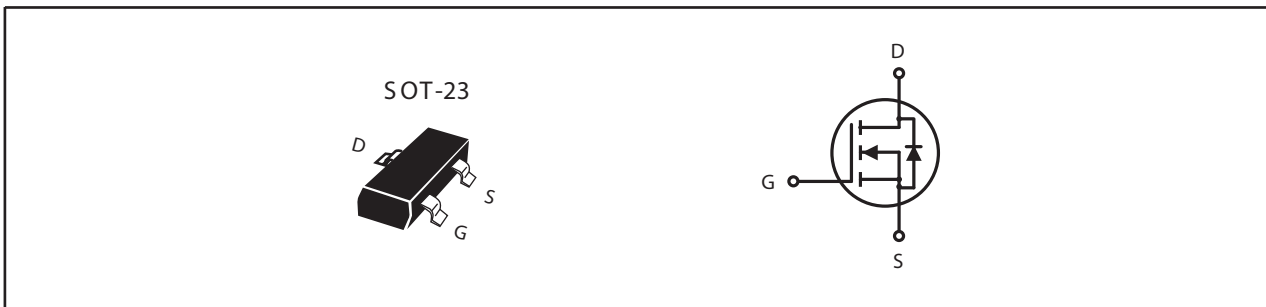


STS3414

PRODUCT SUMMARY		
V _{DS}	I _D	R _{DS(ON)} (mΩ) Max
30V	4A	50 @ V _{GS} =10V
		60 @ V _{GS} =4.5V
		75 @ V _{GS} =2.5V

FEATURES

- Super high dense cell design for low R_{DS(ON)}.
- Rugged and reliable.
- SOT-23 package.



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

Symbol	Parameter	Limit	Units
V _{DS}	Drain-Source Voltage	30	V
V _{GS}	Gate-Source Voltage	±12	V
I _D	Drain Current-Continuous ^a	4	A
I _{DM}	-Pulsed ^b	15	A
P _D	Maximum Power Dissipation ^a	1.25	W
T _J , T _{STG}	Operating Junction and Storage Temperature Range	-55 to 150	°C

THERMAL CHARACTERISTICS

R _{θJA}	Thermal Resistance, Junction-to-Ambient ^a	100	°C/W
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STS3414

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

Symbol	Parameter	Conditions	Min	Typ	Max	Units
OFF CHARACTERISTICS						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	30			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =24V, V _{GS} =0V			1	uA
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±12V, V _{DS} =0V			±100	nA
ON CHARACTERISTICS						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =250uA	0.5	0.9	1.2	V
R _{DS(ON)}	Drain-Source On-State Resistance	V _{GS} =10V, I _D =4A		37	50	m ohm
		V _{GS} =4.5V, I _D =3A		45	60	m ohm
		V _{GS} =2.5V, I _D =1A		50	75	m ohm
g _{FS}	Forward Transconductance	V _{DS} =5.0V, I _D =4A		13		S
DYNAMIC CHARACTERISTICS ^c						
C _{ISS}	Input Capacitance	V _{DS} =15V, V _{GS} =0V f=1.0MHz		440		pF
C _{OSS}	Output Capacitance			62		pF
C _{RSS}	Reverse Transfer Capacitance			37		pF
SWITCHING CHARACTERISTICS ^c						
t _{D(ON)}	Turn-On Delay Time	V _{DD} =5V I _D =1A V _{GS} =10V R _{GEN} =6 ohm		4		ns
t _r	Rise Time			8		ns
t _{D(OFF)}	Turn-Off Delay Time			43		ns
t _f	Fall Time			5		ns
Q _g	Total Gate Charge	V _{DS} =15V, I _D =4A, V _{GS} =10V		9.3		nC
		V _{DS} =15V, I _D =4A, V _{GS} =4.5V		4.6		nC
Q _{gs}	Gate-Source Charge	V _{DS} =15V, I _D =4A, V _{GS} =4.5V		1		nC
Q _{gd}	Gate-Drain Charge			1.4		nC
DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS						
I _S	Maximum Continuous Drain-Source Diode Forward Current				1.25	A
V _{SD}	Diode Forward Voltage ^b	V _{GS} =0V, I _S =1.25A		0.82	1.2	V
Notes						
a. Surface Mounted on FR4 Board, t ≤ 10sec.						
b. Pulse Test: Pulse Width ≤ 300us, Duty Cycle ≤ 2%.						
c. Guaranteed by design, not subject to production testing.						