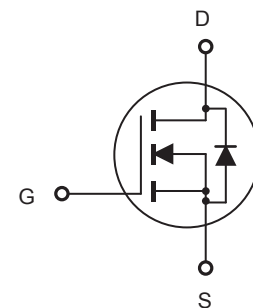
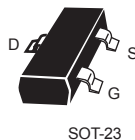


FEATURES

- 20V, 3.0A, $R_{DS(ON)} = 72m\Omega @V_{GS} = 4.5V$.
 $R_{DS(ON)} = 110m\Omega @V_{GS} = 2.5V$.
- High dense cell design for extremely low $R_{DS(ON)}$.
- Lead free product is acquired.
- Rugged and reliable.
- SOT-23 package.



ABSOLUTE MAXIMUM RATINGS $T_A = 25^\circ C$ unless otherwise noted

Parameter	Symbol	Limit	Units
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 8	V
Drain Current-Continuous	I_D	3	A
Drain Current-Pulsed ^a	I_{DM}	10	A
Maximum Power Dissipation	P_D	1.25	W
Operating and Store Temperature Range	T_J, T_{stg}	-55 to 150	$^\circ C$

Thermal Characteristics

Parameter	Symbol	Limit	Units
Thermal Resistance, Junction-to-Ambient ^b	$R_{\theta JA}$	100	$^\circ C/W$

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0V, I_D = 10\mu A$	20			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$			1	μA
Gate Body Leakage Current, Forward	I_{GSSF}	$V_{GS} = 8V, V_{DS} = 0V$			100	nA
Gate Body Leakage Current, Reverse	I_{GSSR}	$V_{GS} = -8V, V_{DS} = 0V$			-100	nA
On Characteristics ^c						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS} = V_{DS}, I_D = 250\mu A$	0.65		1.2	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 3.6A$		55	72	$m\Omega$
		$V_{GS} = 2.5V, I_D = 3.1A$		82	110	$m\Omega$
Dynamic Characteristics ^d						
Input Capacitance	C_{iss}	$V_{DS} = 10V, V_{GS} = 0V,$ $f = 1.0\text{ MHz}$		330		pF
Output Capacitance	C_{oss}			90		pF
Reverse Transfer Capacitance	C_{rss}			60		pF
Switching Characteristics ^d						
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 10V, I_D = 3.6A,$ $V_{GS} = 4.5V, R_{GEN} = 6\Omega$		10	20	ns
Turn-On Rise Time	t_r			6	12	ns
Turn-Off Delay Time	$t_{d(off)}$			28	56	ns
Turn-Off Fall Time	t_f			15	30	ns
Total Gate Charge	Q_g	$V_{DS} = 10V, I_D = 3.6A,$ $V_{GS} = 4.5V$		5.1	6.6	nC
Gate-Source Charge	Q_{gs}			1		nC
Gate-Drain Charge	Q_{gd}			1.3		nC
Drain-Source Diode Characteristics and Maximum Ratings						
Drain-Source Diode Forward Current ^b	I_S				0.94	A
Drain-Source Diode Forward Voltage ^c	V_{SD}	$V_{GS} = 0V, I_S = 0.94A$			1.2	V

Notes :

- a. Repetitive Rating : Pulse width limited by maximum junction temperature.
b. Surface Mounted on FR4 Board, $t \leq 10$ sec.
c. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
d. Guaranteed by design, not subject to production testing.