

INTERFACE AND SWITCHING APPLICATION.

FEATURES

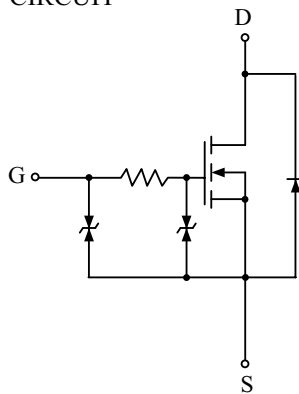
- ESD Protected 2000V.
- High density cell design for low $R_{DS(ON)}$.
- Voltage controlled small signal switch.
- Rugged and reliable.
- High saturation current capablity.

MAXIMUM RATING ($T_a=25^{\circ}\text{C}$)

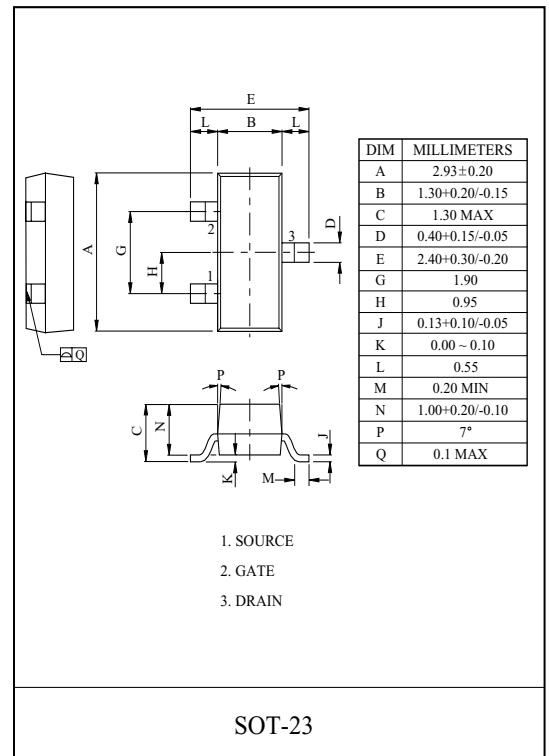
CHARACTERISTIC		SYMBOL	RATING	UNIT
Drain-Source Voltage		V_{DSS}	60	V
Gate-Source Voltage		V_{GSS}	± 20	V
Drain Current	Continuous	I_D	300	mA
	Pulsed (Note 1)	I_{DP}	1200	
Drain Power Dissipation (Note 2)		P_D	350	mW
Junction Temperature		T_j	150	$^{\circ}\text{C}$
Storage Temperature Range		T_{stg}	-55 150	$^{\circ}\text{C}$
Thermal Characteristics				
Thermal Resistance, Junction-to-Ambient (Note 2)		$R_{th(j-a)}$	357	$^{\circ}\text{C}/\text{W}$

Note 1) Pulse Width $\leq 10\mu\text{s}$, Duty Cycle $\leq 1\%$ Note 2) Package mounted on 99% Alumina $10 \times 8 \times 0.6\text{mm}$

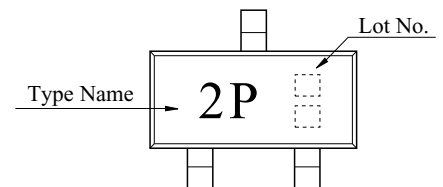
EQUIVALENT CIRCUIT

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0\text{V}$, $I_D=10\mu\text{A}$	60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60\text{V}$, $V_{GS}=0\text{V}$	-	-	1	μA
Gate-Body Leakage, Forward	I_{GSSF}	$V_{GS}=20\text{V}$, $V_{DS}=0\text{V}$	-	-	10	μA
Gate-Body Leakage, Reverse	I_{GSSR}	$V_{GS}=-20\text{V}$, $V_{DS}=0\text{V}$	-	-	-10	μA
ESD-Capability*	-	$C=100\text{pF}$, $R=1.5\text{K}\Omega$ Both forward and reverse direction 3 pulse	2000	-	-	V

*Failure criterion : $I_{DSS} > 1\mu\text{A}$ at $V_{DS}=60\text{V}$, $I_{GSSF} > 10\mu\text{A}$ at $V_{GS}=20\text{V}$, $I_{GSSR} > -10\mu\text{A}$ at $V_{GS}=-20\text{V}$.

Marking



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ELECTRICAL CHARACTERISTICS (Ta=25°C) ON CHARACTERISTICS (Note 3)

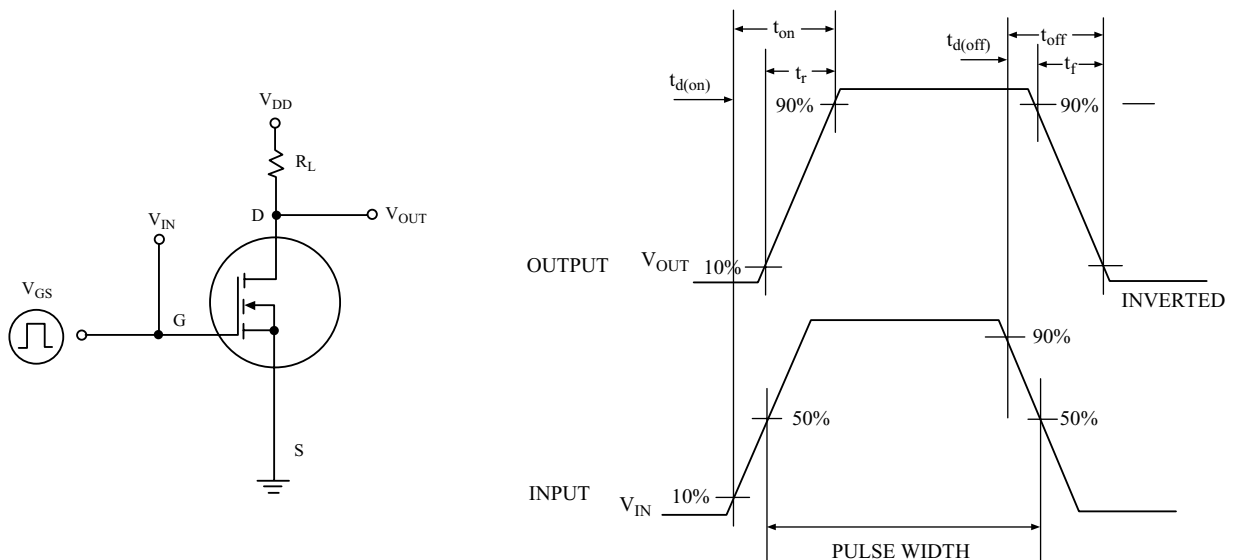
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Threshold Voltage	V_{th}	$V_{DS}=V_{GS}$, $I_D=250\text{ }\mu\text{A}$	1.1	-	2.35	V
Drain-Source ON Resistance	$R_{DS(ON)}$	$V_{GS}=10\text{V}$, $I_D=500\text{mA}$	-	-	2.3	Ω
		$V_{GS}=5\text{V}$, $I_D=50\text{mA}$	-	1.7	2.7	
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0\text{V}$, $I_S=200\text{mA}$ (Note 1)	-	-	1.15	V

Note 3) Pulse Test : Pulse Width $\leq 80\mu\text{s}$, Duty Cycle $\leq 1\%$

DYNAMIC CHARACTERISTICS

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Capacitance	C_{iss}	$V_{DS}=25\text{V}$, $V_{GS}=0\text{V}$, $f=1\text{MHz}$	-	18.0	-	pF
Reverse Transfer Capacitance	C_{rss}		-	3.0	-	
Output Capacitance	C_{oss}		-	7.0	-	
Gate Resistance	R_g		-	850	-	Ω
Switching Time	Turn-On Time	$V_{DD}=30\text{V}$, $R_L=155\Omega$, $I_D=190\text{mA}$, $V_{GS}=10\text{V}$	-	15	-	nS
	Turn-Off Time		-	40	-	

SWITCHING TIME TEST CIRCUIT



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