

#### 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 capability.

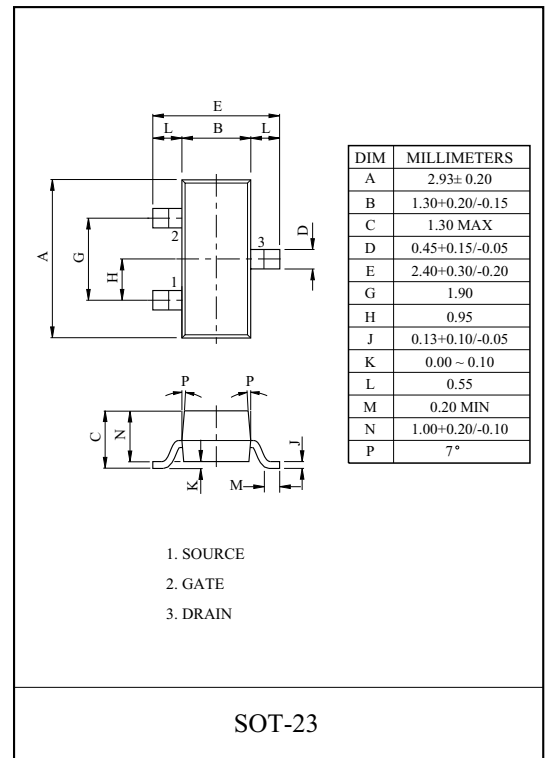
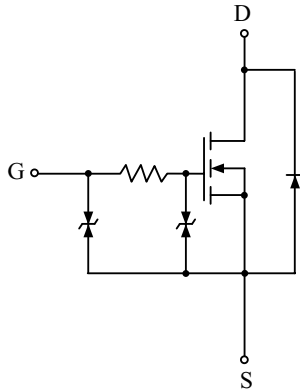
#### MAXIMUM RATING (Ta=25 °C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	$V_{DSS}$	60	V
Gate-Source Voltage	$V_{GSS}$	$\pm 20$	V
Drain Current	Continuous	$I_D$	300
	Pulsed (Note 1)	$I_{DP}$	1200
Drain Power Dissipation (Note 2)	$P_D$	300	mW
Junction Temperature	$T_j$	150	
Storage Temperature Range	$T_{stg}$	-55 150	

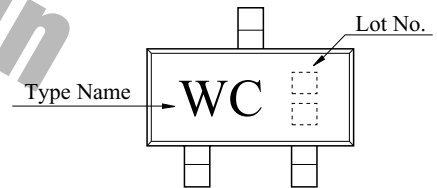
Note 1) Pulse Width 10 $\mu$ s, Duty Cycle 1%

Note 2) Package mounted on a glass epoxy PCB(100mm<sup>2</sup> × 1mm)

#### EQUIVALENT CIRCUIT



Marking



#### ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_D=10 \mu A$	60	-	-	V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=60V, V_{GS}=0V$	-	-	1	$\mu A$
Gate-Body Leakage, Forward	$I_{GSSF}$	$V_{GS}=20V, V_{DS}=0V$	-	-	10	$\mu A$
Gate-Body Leakage, Reverse	$I_{GSSR}$	$V_{GS}=-20V, V_{DS}=0V$	-	-	-10	$\mu A$

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## ELECTRICAL CHARACTERISTICS (Ta=25 ) ON CHARACTERISTICS (Note 3)

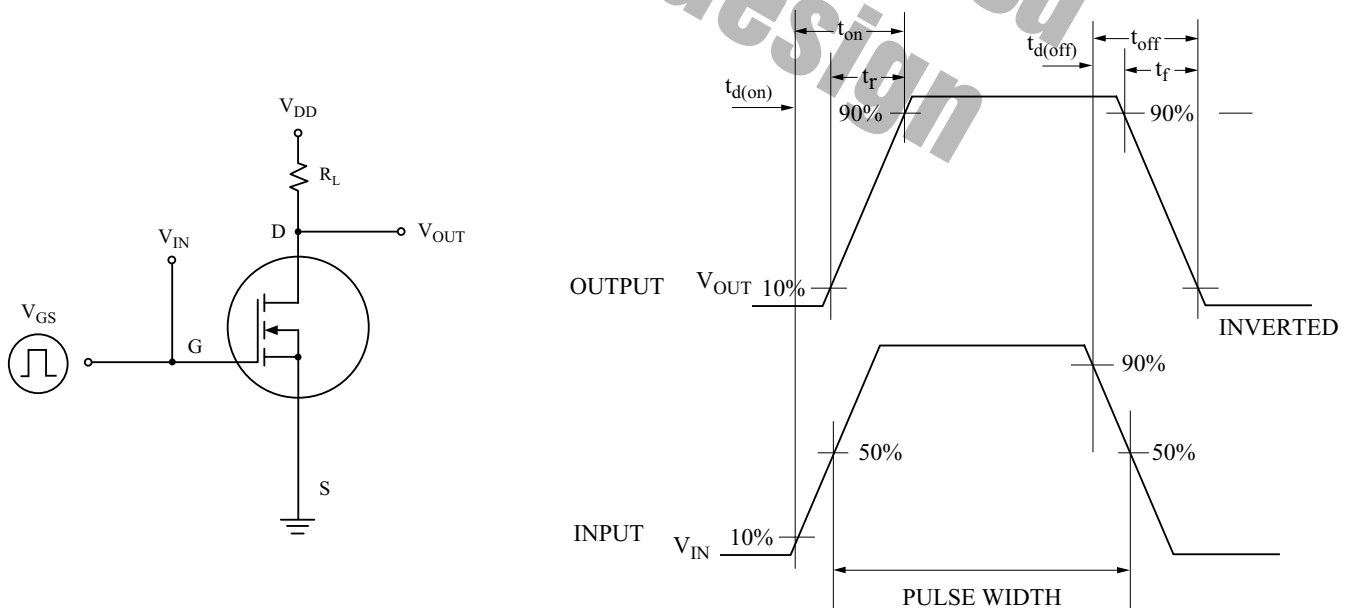
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Threshold Voltage	$V_{th}$	$V_{DS}=V_{GS}, I_D=250 \mu A$	1.1	-	2.35	V
Drain-Source ON Resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=500mA$	-	1.2	1.8	
		$V_{GS}=5V, I_D=50mA$	-	1.5	2.1	
Drain-Source ON Voltage	$V_{DS(ON)}$	$V_{GS}=10V, I_D=500mA$	-	0.6	0.9	V
		$V_{GS}=5V, I_D=50mA$	-	0.075	0.105	
On State Drain Current	$I_{D(ON)}$	$V_{GS}=10V, V_{DS}= 2 V_{DS(ON)}$	500	-	-	mA
Forward Transconductance	$g_{FS}$	$V_{DS}=10V, I_D=500mA$	200	580	-	mS
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V, I_S=200mA$ (Note1)	-	760	1150	mV

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

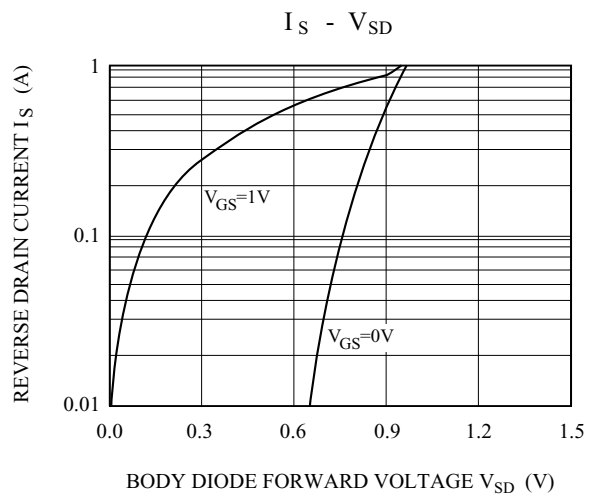
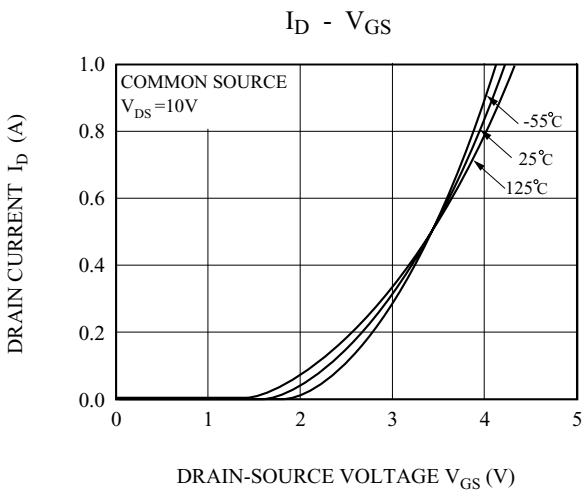
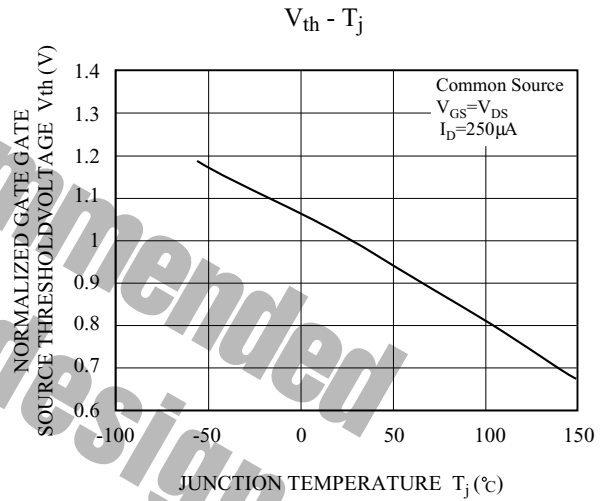
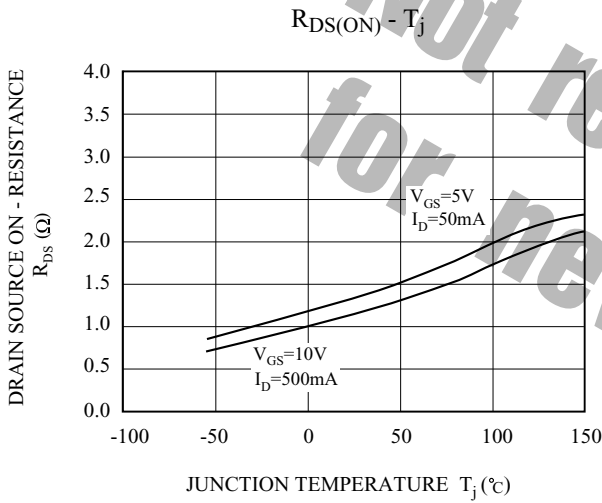
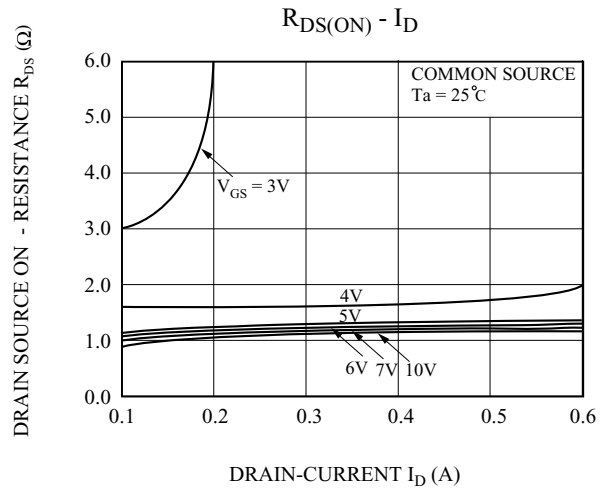
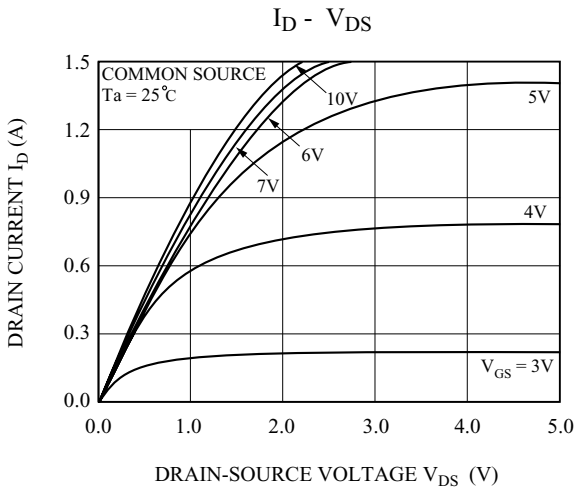
## DYNAMIC CHARACTERISTICS

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Input Capacitance	$C_{iss}$	$V_{DS}=25V, V_{GS}=0V, f=1MHz$	-	52.1	-	pF
Reverse Transfer Capacitance	$C_{rss}$		-	3.9	-	
Output Capacitance	$C_{oss}$		-	7.7	-	
Switching Time	Turn-On Time	$V_{DD}=30V, R_L=155 \Omega, I_D=190mA,$ $V_{GS}=10V$	-	11.1	-	nS
	Turn-Off Time		$t_{off}$	-	22.5	

## SWITCHING TIME TEST CIRCUIT



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