

TO-92 Plastic-Encapsulate MOSFET

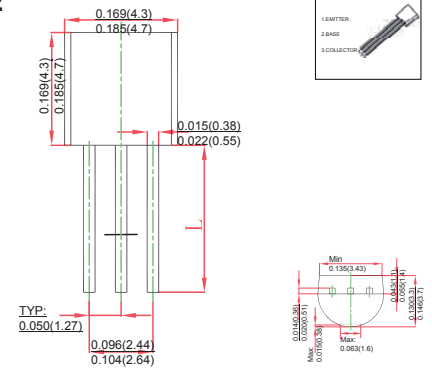
FEATURE

- High density cell design for low RDS(ON)
- Voltage controlled small signal switch
- Rugged and reliabl
- High saturation current capability
- MOSFET (N-Channel)

MECHANICAL DATA

- Case style:TO-92 molded plastic
- Mounting position:any

TO-92



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Continuous Drain Current	I_D	0.2	A
Power Dissipation	P_D	0.625	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	200	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	-55 ~ +150	

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
60V	5Ω@10V	200mA
	6Ω@4.5V	

MOSFET ELECTRICAL CHARACTERISTICS $T_A=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0\text{V}, I_D=10\mu\text{A}$	60			V
Gate-Threshold Voltage*	$V_{(GS)th}$	$V_{DS}=V_{GS}, I_D=1\text{mA}$	0.8		3	
Gate-body Leakage	I_{GSS}	$V_{DS}=0\text{V}, V_{GS}=\pm 15\text{V}$			±10	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60\text{V}, V_{GS}=0\text{V}$			1	μA
On-state Drain Current	$I_{D(ON)}$	$V_{GS}=4.5\text{V}, V_{DS}=10\text{V}$	75			mA
Drain-Source On-Resistance*	$R_{DS(on)}$	$V_{GS}=4.5\text{V}, I_D=75\text{mA}$			6	Ω
		$V_{GS}=10\text{V}, I_D=500\text{mA}$			5	
Forward Trans conductance*	g_{fs}	$V_{DS}=10\text{V}, I_D=200\text{mA}$	100			ms
Drain-source on-voltage*	$V_{DS(on)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$			2.5	V
		$V_{GS}=4.5\text{V}, I_D=75\text{mA}$			0.45	V
Input Capacitance **	C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$			60	pF
Output Capacitance **	C_{oss}				25	
Reverse Transfer Capacitance **	C_{rss}				5	
Turn-on Time **	$t_{d(on)}$	$V_{DD}=15\text{V}, R_L=30\Omega$			10	ns
Turn-off Time **	$t_{d(off)}$	$I_D=500\text{mA}, V_{GEN}=10\text{V}$ $R_G=25\Omega$			10	

*Pulse test

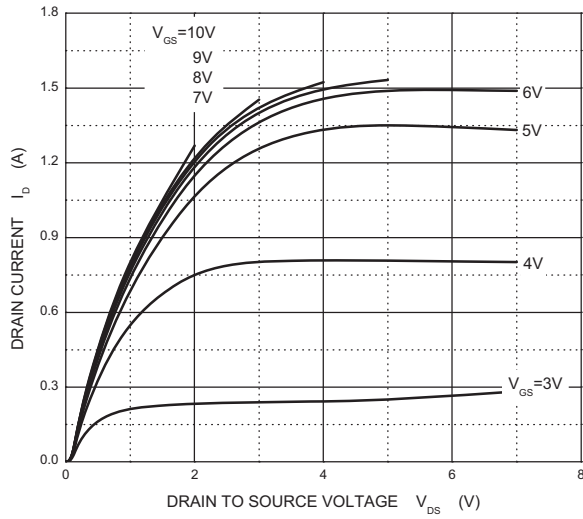
**These parameters have no way to verify.



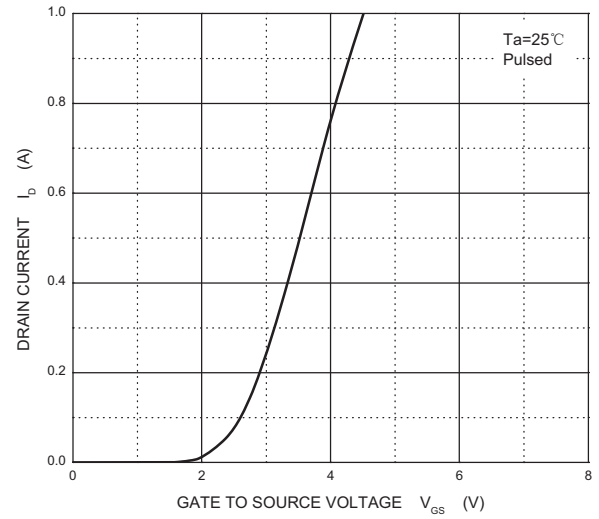
RATINGS AND CHARACTERISTIC CURVES

Typical Characteristics

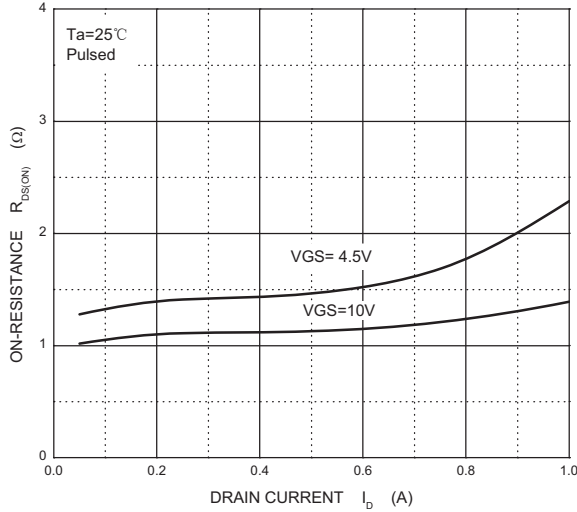
Output Characteristics



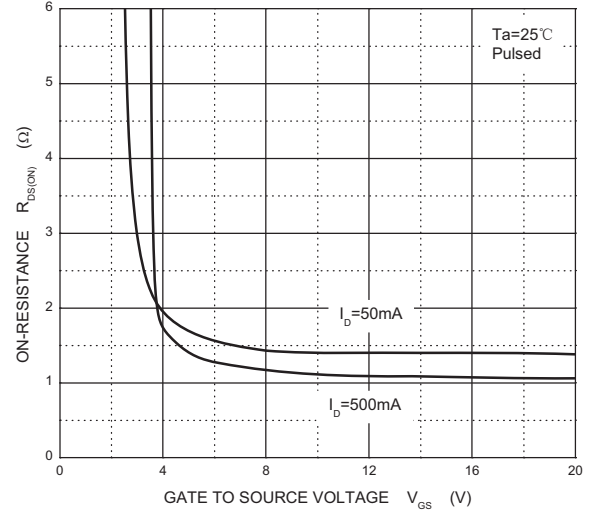
Transfer Characteristics



$R_{DS(ON)}$ — I_D



$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}

