

TO-92 Plastic-Encapsulate MOSFETS

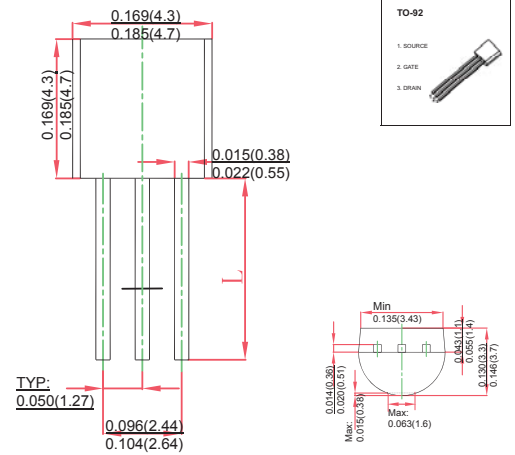
FEATURES

- N-Channel Power MOSFET
- Robust High Voltage Termination
- Avalanche Energy Specified
- Source-to-Drain Diode Recovery Time Comparable to a Discrete
- Fast Recovery Diode Diode is Characterized for Use in Bridge Circuits
- I_{DSS} and $V_{DS(on)}$ Specified at Elevated Temperature

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}	600	V
Gate-Source Voltage	V_{GS}	± 30	
Continuous Drain Current	I_D	1	A
Pulsed Drain Current	I_{DM}	9	
Power Dissipation	P_D	0.625	W
Single Pulsed Avalanche Energy*	E_{AS}	20	mJ
Thermal Resistance from Junction to Ambient	R_{thJA}	200	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{stg}	-50 ~ +150	

* E_{AS} condition: $T_J=25^\circ\text{C}$, $V_{DD}=100\text{V}$, $V_{GS}=10\text{V}$, $L=10\text{mH}$, $I_{AS}=2\text{A}$, $R_G=25\Omega$

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0\text{V}$, $I_D = 250\mu\text{A}$	600			V
Gate-Threshold Voltage (note1)	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 250\mu\text{A}$	2.0		4.0	
Gate-Body Leakage Current (note1)	I_{GSS}	$V_{DS} = 0\text{V}$, $V_{GS} = \pm 20\text{V}$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 600\text{V}$, $V_{GS} = 0\text{V}$			0.10	μA
Drain-Source On-State Resistance (note1)	$R_{DS(on)}$	$V_{GS} = 10\text{V}$, $I_D = 0.6\text{A}$			10	Ω
Forward Transconductance (note1)	g_{FS}	$V_{DS} = 50\text{V}$, $I_D = 0.5\text{A}$	0.5			S
Input Capacitance	C_{iss}	$V_{DS} = 25\text{V}$, $V_{GS} = 0\text{V}$, $f = 1\text{MHz}$		210		pF
Output Capacitance	C_{oss}				28	
Reverse Transfer Capacitance	C_{rss}				4.2	
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 300\text{V}$, $I_D = 1\text{A}$, $V_{GS} = 10\text{V}$, $R_G = 18\Omega$		8		nS
Rise Time	t_r			21		
Turn-Off Delay Time	$t_{d(off)}$			18		
Fall Time	t_f			24		
Forward on Voltage(note1)	V_{SD}	$V_{GS} = 0\text{V}$, $I_S = 1\text{A}$			1.5	V

Notes:

1. Pulse Test : Pulse Width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

Typical Characteristics

