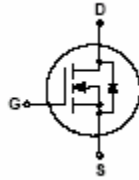


**Features**

## MOSFET (N-Channel)

- High density cell design for low  $R_{DS(ON)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability


**SOT-23**


1. GATE
2. SOURCE
3. DRAIN

**MARKING:** 7002, 7002K

**MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$  unless otherwise noted)**

Symbol	Parameter	Value	Units
$V_{DS}$	Drain-Source voltage	60	V
$I_D$	Drain Current	115	mA
$P_D$	Power Dissipation	225	mW
$R_{\theta JA}$	Thermal Resistance, junction to Ambient	556	$^\circ\text{C}/\text{W}$
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^\circ\text{C}$  unless otherwise specified)**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
<b>Drain-Source Breakdown Voltage</b>	$V_{(BR)DSS}$	$V_{GS}=0\text{ V}, I_D=10\ \mu\text{A}$	60			V
<b>Gate-Threshold Voltage</b>	$V_{th(GS)}$	$V_{DS}=V_{GS}, I_D=250\ \mu\text{A}$	1		2.5	
<b>Gate-body Leakage</b>	$I_{GSS}$	$V_{DS}=0\text{ V}, V_{GS}=\pm 25\text{ V}$			$\pm 80$	nA
<b>Zero Gate Voltage Drain Current</b>	$I_{DSS}$	$V_{DS}=60\text{ V}, V_{GS}=0\text{ V}$			80	nA
<b>On-state Drain Current</b>	$I_{D(ON)}$	$V_{GS}=10\text{ V}, V_{DS}=7\text{ V}$	500			mA
<b>Drain-Source On-Resistance</b>	$r_{DS(on)}$	$V_{GS}=10\text{ V}, I_D=500\text{mA}$	1		7.5	$\Omega$
		$V_{GS}=5\text{ V}, I_D=50\text{mA}$	1		7.5	
<b>Forward Trans conductance</b>	$g_{fs}$	$V_{DS}=10\text{ V}, I_D=200\text{mA}$	80		500	ms
<b>Drain-source on-voltage</b>	$V_{DS(on)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$	0.5		3.75	V
		$V_{GS}=5\text{V}, I_D=50\text{mA}$	0.05		0.375	V
<b>Diode Forward Voltage</b>	$V_{SD}$	$I_S=115\text{mA}, V_{GS}=0\text{ V}$	0.55		1.2	V
<b>Input Capacitance</b>	$C_{iss}$	$V_{DS}=25\text{V}, V_{GS}=0\text{V}, f=1\text{MHz}$			50	pF
<b>Output Capacitance</b>	$C_{oss}$				25	
<b>Reverse Transfer Capacitance</b>	$C_{rss}$				5	

**SWITCHING TIME**

<b>Turn-on Time</b>	$t_{d(on)}$	$V_{DD}=25\text{ V}, R_L=50\Omega$ $I_D=500\text{mA}, V_{GEN}=10\text{ V}$ $R_G=25\ \Omega$			20	ns
<b>Turn-off Time</b>	$t_{d(off)}$				40	

## Typical characteristics

