

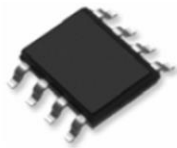
**GENERAL FEATURES**

$BV_{DSS}$	-20V
$R_{DS(ON)}$	22m $\Omega$ @-4.5V (Max)
	25m $\Omega$ @-3.3V (Max)
$I_D$	-7.5A

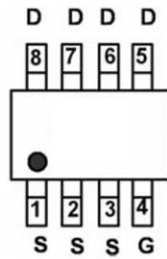
**Application**

- Load/Power Switching
- Interfacing Switching
- Logic Level Shift

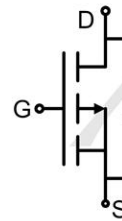
**Package and Pin Configuration**



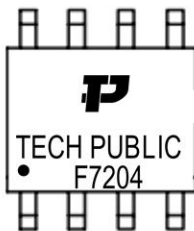
SOP-8 top view



**Circuit diagram**



**Marking**



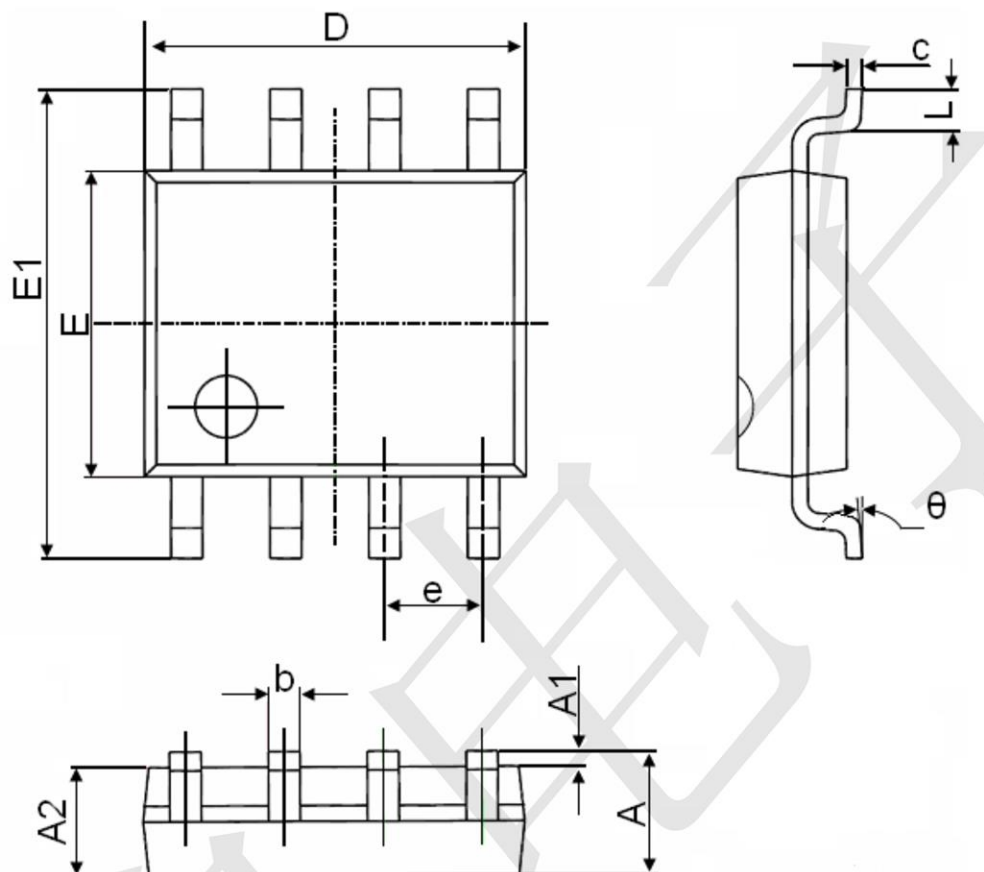
**Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$  unless otherwise noted)**

Parameter	Symbol	Max.	Unit
Drain-Source Voltage	$V_{DS}$	-20	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	V
Drain Current-Continuous ( $T_A=25^\circ\text{C}$ )	$I_D$	-7.5	A
Drain Current-Continuous ( $T_A=70^\circ\text{C}$ )		-6.4	
Drain Current-Pulsed ( $T_A=25^\circ\text{C}$ ) <sup>1</sup>	$I_{DM}$	-28	A
Power Dissipation ( $T_A=25^\circ\text{C}$ )	$P_D$	3.1	W
Power Dissipation ( $T_A=70^\circ\text{C}$ )		2.4	
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	40	$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_J$	-50 To +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-50 To +150	$^\circ\text{C}$

**Electrical Characteristics (T<sub>j</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
<b>Off Characteristics</b>						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =-250μA	-20	-	-	V
Zero Gate Voltage Drain Current, T <sub>A</sub> =25°C	I <sub>DSS</sub>	V <sub>DS</sub> =-20V, V <sub>GS</sub> =0V	-	-	-1	μA
Zero Gate Voltage Drain Current, T <sub>A</sub> =125°C		V <sub>DS</sub> =-12V, V <sub>GS</sub> =0V	-	-	-100	μA
Gate-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±12V, V <sub>DS</sub> =0V	-	-	±100	nA
<b>On Characteristics</b>						
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>GS</sub> =V <sub>DS</sub> , I <sub>D</sub> =-250μA	-0.4	-0.6	-1.0	V
Drain-Source On-State Resistance <sup>2</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-7A	-	-	22	mΩ
		V <sub>GS</sub> =-3.3V, I <sub>D</sub> =-5A	-	-	25	mΩ
		V <sub>GS</sub> =-2.5V, I <sub>D</sub> =-2A	-	-	33	mΩ
<b>Dynamic and Switching Characteristics</b>						
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-5A, V <sub>GS</sub> =-4.5V	-	15.4	-	nC
Gate-Source Charge	Q <sub>gs</sub>		-	2.0	-	
Gate-Drain Charge	Q <sub>gd</sub>		-	3.6	-	
Turn-On Delay Time	T <sub>d(on)</sub>	V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-1A, R <sub>G</sub> =3.3Ω, V <sub>DD</sub> =-10V	-	8	-	nS
Rise Time	T <sub>r</sub>		-	15.5	-	
Turn-Off Delay Time	T <sub>d(off)</sub>		-	42	-	
Fall Time	T <sub>f</sub>		-	10.5	-	
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =-10V, V <sub>GS</sub> =0V, F=1MHz	-	1685	-	pF
Output Capacitance	C <sub>oss</sub>		-	234	-	
Reverse Transfer Capacitance	C <sub>rss</sub>		-	187	-	
<b>Drain-Source Diode Characteristics and Maximum Ratings</b>						
Source Drain Current (Body Diode)	I <sub>SD</sub>	T <sub>A</sub> =25°C	-	-	-1.5	A
Diode Forward Voltage <sup>2</sup>	V <sub>SD</sub>	V <sub>GS</sub> =0V, I <sub>SD</sub> =-5A, T <sub>J</sub> =25°C	-	-0.85	-1.2	V

SOP-8 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270(BSC)		0.050(BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°