

GENERAL FEATURES

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

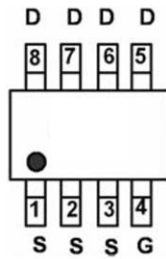
Application

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

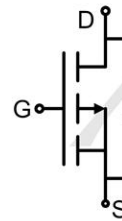
Package and Pin Configuration



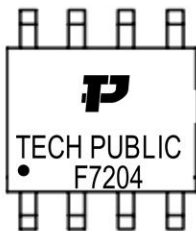
SOP-8 top view



Circuit diagram



Marking



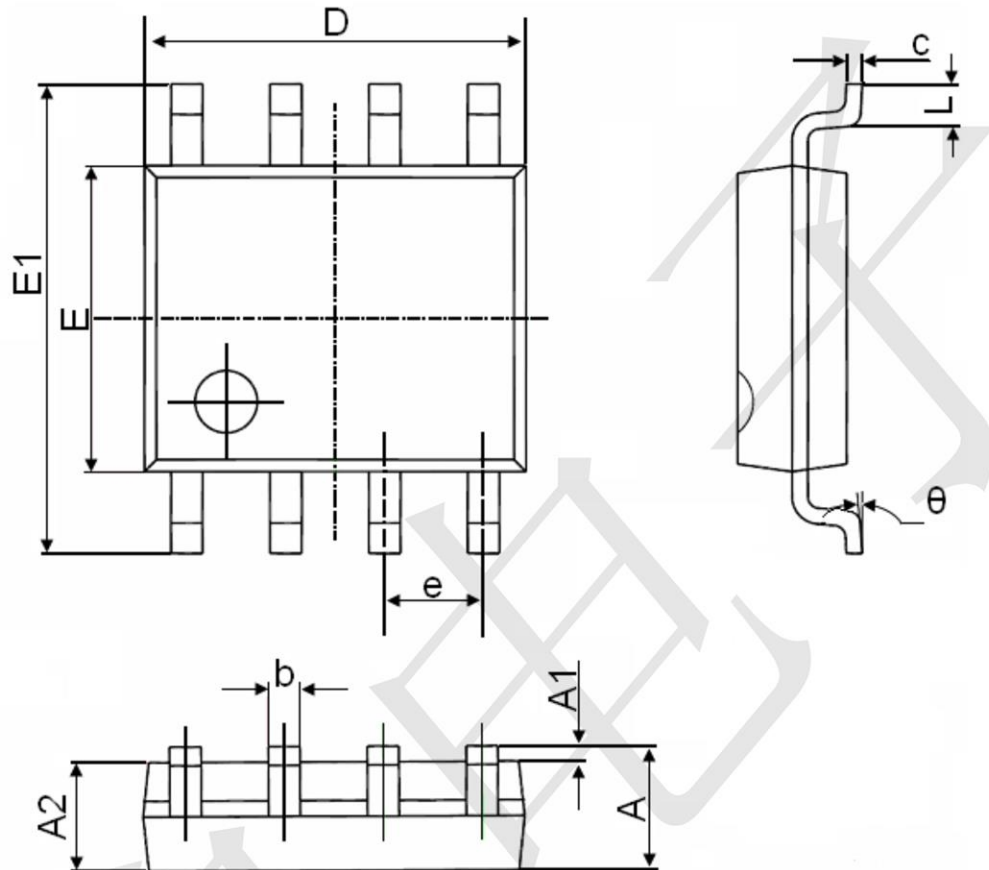
Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Max.	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 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 ($T_A=25^\circ\text{C}$) ¹	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_j=25°C unless otherwise noted)

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

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