TECH PUBLIC
台舟电子

IRF5801TRPBF-TP

N-Channel MOSFET 200V, 1.5A, 0.7Ω

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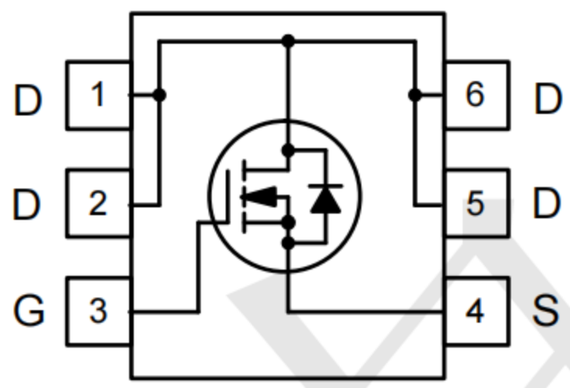
Features

- V_{DS} = 200V
- I_D= 1.5A
- $R_{DS(ON)}$ ≤ 0.7Ω @V_{GS} = 10V

Application

- Load/Power Switching
- Interfacing Switching
- Battery Management for Ultra Small Portable Electronics
- Logic Level Shift

Package and Pin Configuration



Marking:262P

Absolute Maximum Ratings (T_A=25℃unless otherwise noted)

Characteristics		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	200	V
Gate-Source Voltage		V_{GSS}	±20	V
Continuous Drain Current	T_C=25°C	I_D	1.5	A
Pulsed Drain Current(1)		I_{DM}	4.5	A
Power Dissipation	T_C=25°C	Pd	1.6	W
Junction and Storage Temperature Range		T_J, T_{stg}	-55~150	°C

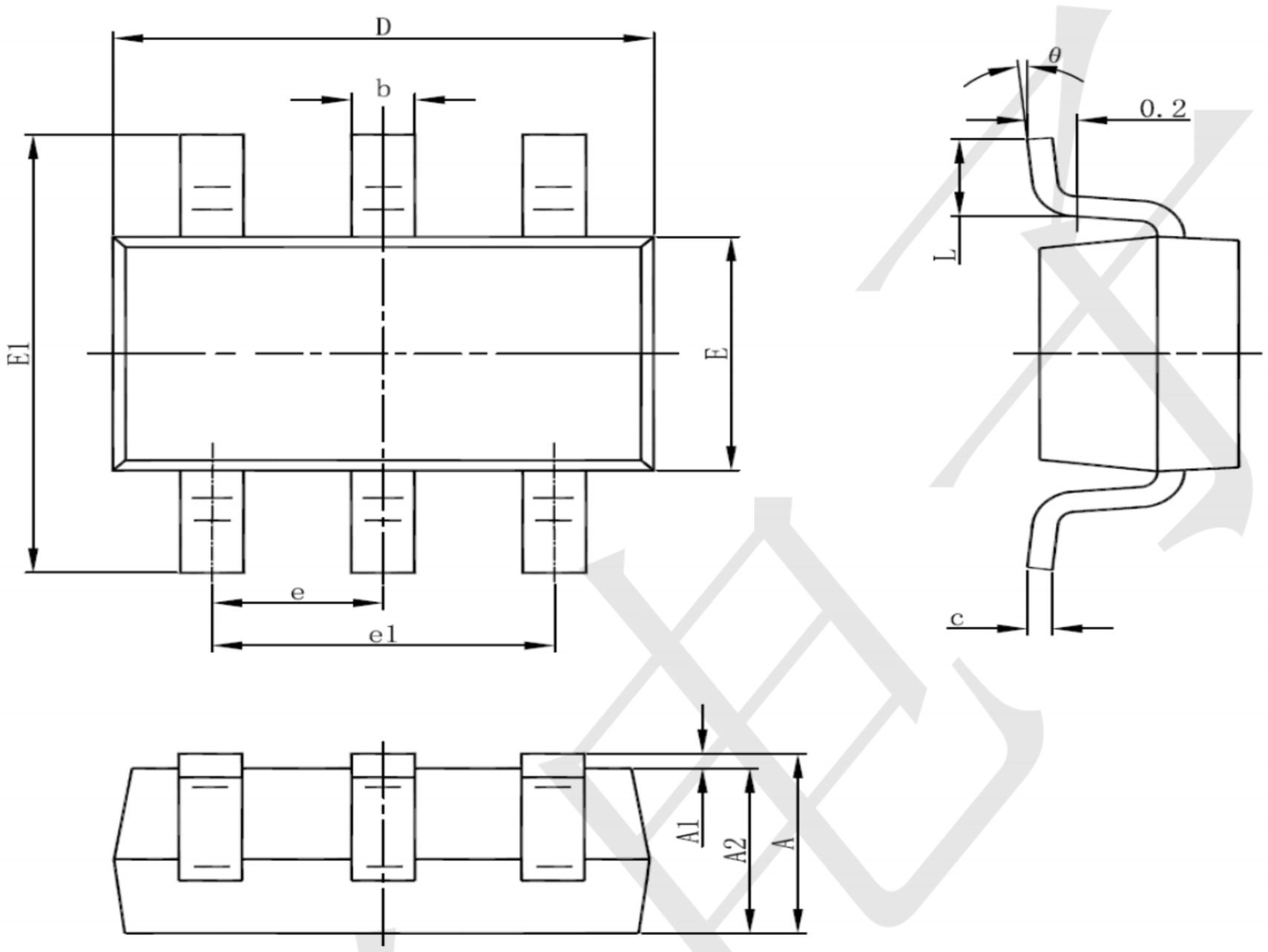
Thermal Characteristics

Characteristics	Symbol	Rating	Unit
Thermal Resistance, Junction-to-Ambient(1)	$R_{\theta JA}$	90	°C/W
Thermal Resistance, Junction-to-Case(1)	$R_{\theta JC}$	30	

Electrical Characteristics (T_A=25℃unless otherwise noted)

Characteristics	Symbol	Test Condition	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	I_D = 250μA, V_{GS} = 0V	200	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	2.0	3.0	4.0	
Drain Cut-Off Current	I_{DSS}	V_{DS} = 160V, V_{GS} = 0V	-	-	1	μA
Gate Leakage Current	I_{GSS}	V_{GS} = ±20V, V_{DS} = 0V	-	-	100	nA
Drain-Source ON Resistance	$R_{DS(ON)}$	V_{GS} = 10V, I_D = 1.0A	-	0.55	0.7	Ω
Forward Transconductance	g_{fs}	V_{DS} = 10V, I_D = 1.0A	-	4.0	-	S
Dynamic Characteristics						
Total Gate Charge	Q_g	V_{DS} =100V,V_{GS} =10V,I_D =1.0A	-	5.1	-	nC
Gate-Source Charge	Q_{gs}		-	1.5	-	
Gate-Drain Charge	Q_{gd}		-	2.0	-	
Input Capacitance	C_{iss}	V_{DS} =100V,V_{GS} =0V,f=1MHz	-	220	-	pF
Reverse Transfer Capacitance	C_{rss}		-	5.6	-	
Output Capacitance	C_{oss}		-	46.9	-	
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = 100 V, I_D = 1 A, V_{GS} = 10 V, R_{GEN} = 6 Ω	-	6.3	-	ns
Rise Time	t_r		-	6.3	-	
Turn-Off Delay Time	$t_{d(off)}$		-	19.5	-	
Fall Time	t_f		-	10.7	-	
Drain-Source Body Diode Characteristics						
Maximum Continuous Drain to Source Diode Forward Current	I_S		-	1.5	-	A
Source-Drain Diode Forward Voltage	V_{SD}	I_S = 1.5A, V_{GS} = 0V	-	-	1.4	V
Body Diode Reverse Recovery Time	t_{rr}	I_F = 1.3A, di/dt = 100A/μs	-	81	-	ns
Body Diode Reverse Recovery Charge	Q_{rr}		-	0.25	-	μC

SOT23-6 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°