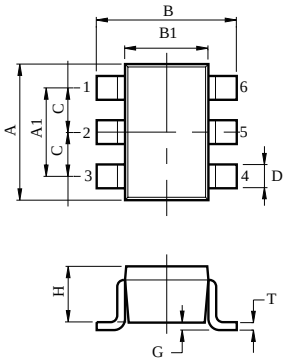
P-Channel 20-V(D-S) MOSFET

FEATURE

- Fast Switching Speed
- Low Gate Charge
- High Performance Trench Technology for extremely Low $R_{DS(on)}$

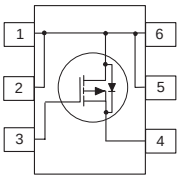
This P-Channel MOSFET is produced using advanced PowerTrench process that has been especially tailored to minimize on-state resistance and yet maintain low gate charge for superior switching performance. These devices have been designed to offer exceptional power dissipation In a very small footprint for applicationswhere the larger packages are impractical.



DIM	MILLIMETERS
A	2 92±0 1
A1	1 9±0 1
B	2 8±0 15
B1	1 6±0 1
C	0 95
D	0 4±0 1
G	0 1MAX
H	1 1±0 05
T	0 15±0 05

SOT-23-6L

MARKING:



Maximum ratings (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Continuous Gate-Source Voltage	V_{GS}	±8	
Continuous Drain Current	I_D	-4	A
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	℃/W
Operating Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55 ~+150	

Electrical characteristics (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Units
Off characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-20			V
Gate-body leakage	I_{GSS}	V_{DS} =0V, V_{GS} =±8V			±100	nA
Zero gate voltage drain current	I_{DSS}	V_{DS} =-16V, V_{GS} =0V			-1.0	μA
On characteristics						
Gate-threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-0.25mA	-0.40		-1.50	V
Static drain-source on-resistance (note 1)	$R_{DS(on)}$	V_{GS} =-4.5V, I_D =-4A			0.065	Ω
		V_{GS} =-2.5V, I_D =-3.2A			0.10	
Forward transconductance (note 1)	g_{fs}	V_{DS} =-5V, I_D =-4A	8			S
Dynamic characteristics (note 2)						
Input capacitance	C_{iss}	V_{DS} =-10,V_{GS} =0V, f=1MHz		640		pF
Output capacitance	C_{oss}			180		
Reverse transfer capacitance	C_{rss}			90		
Switching characteristics						
Turn-on delay time (note 1,2)	$t_{d(on)}$	V_{GS}=-4.5V, V_{DD}=-10V, I_D =-1A,R_{GEN}=6Ω		20		ns
Rise time (note 1,2)	t_r			30		
Turn-off delay time (note 1,2)	$t_{d(off)}$			42		
Fall time (note 1,2)	t_f			55		
Drain-source body diode characteristics						
Body diode forward voltage (note 1)	V_{SD}	I_S=-1.3A, V_{GS} = 0V			-1.2	V

Notes:

1. Pulse Test ; Pulse Width ≤300μs, Duty Cycle ≤2%.
2. These parameters have no way to verify.

Typical Characteristics