

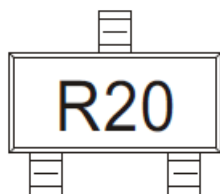
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
20V	14mΩ@10V	6A
	15mΩ@4.5V	
	18mΩ@2.5V	
	30mΩ@1.8V	

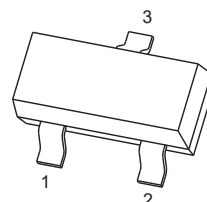
DESCRIPTION

The GP3420 uses advanced trench technology to provide excellent $R_{DS(on)}$. This device is suitable for use as a uni-directional or bi-directional load switch.

MARKING:

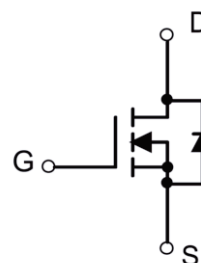


SOT-23



1. GATE
2. SOURCE
3. DRAIN

Schematic diagram



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

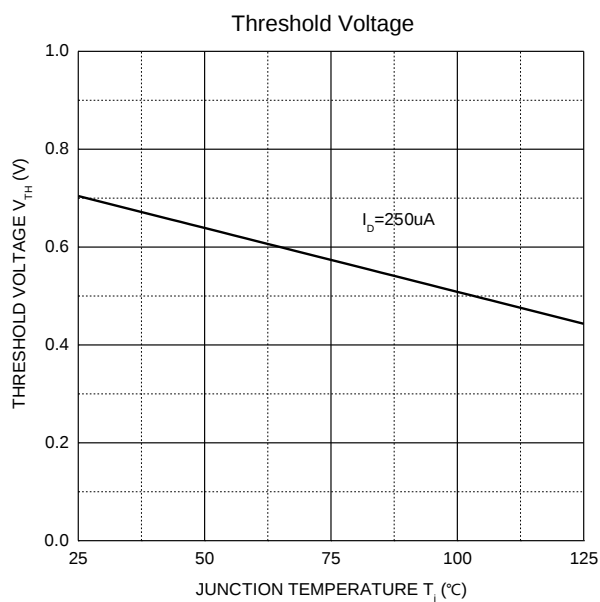
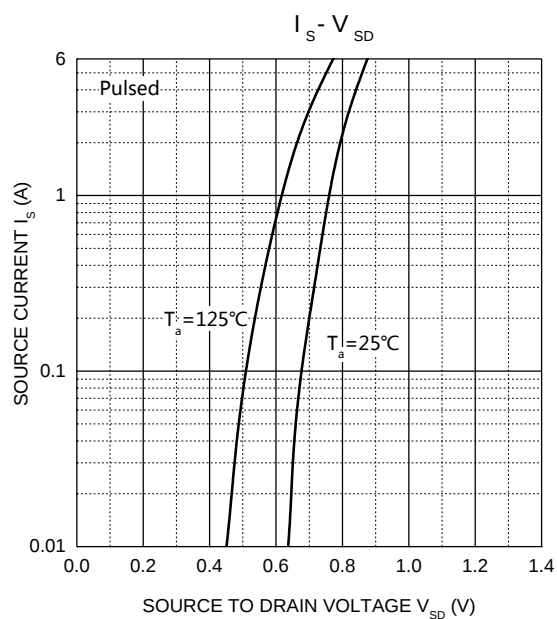
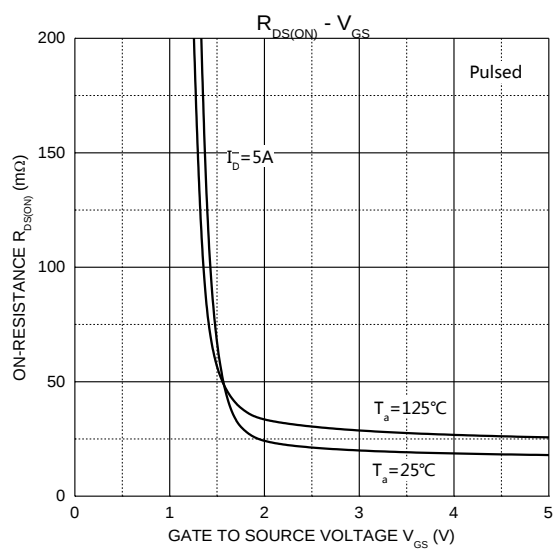
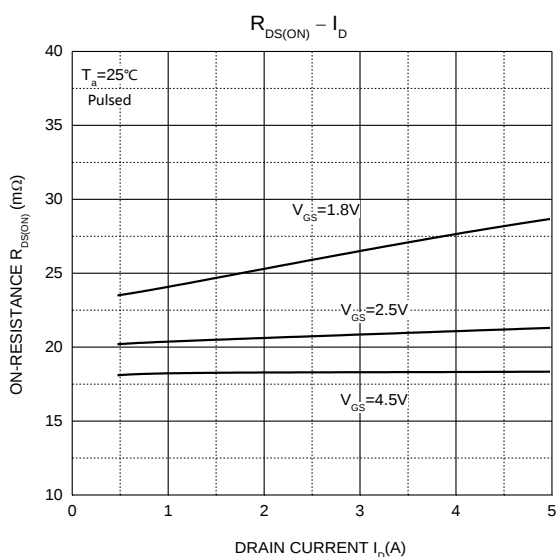
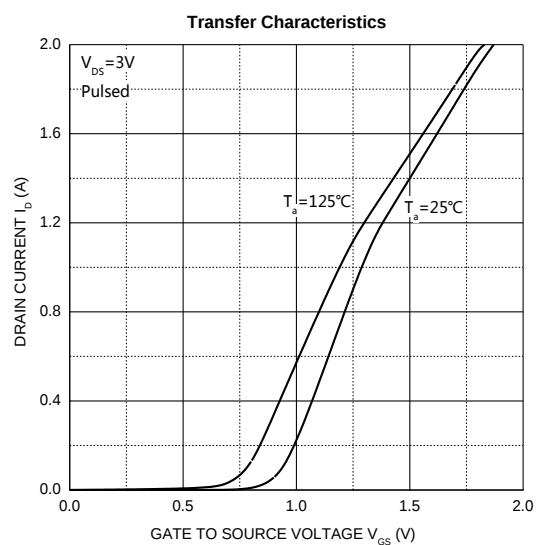
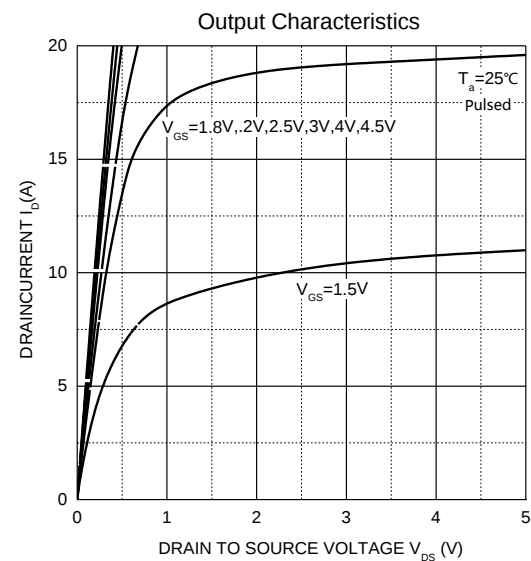
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	6	A
Pulsed Drain Current	I_{DM}	25	
Continuous Source-Drain Diode Current	I_S	2.0	
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}\text{C/W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55~ +150	

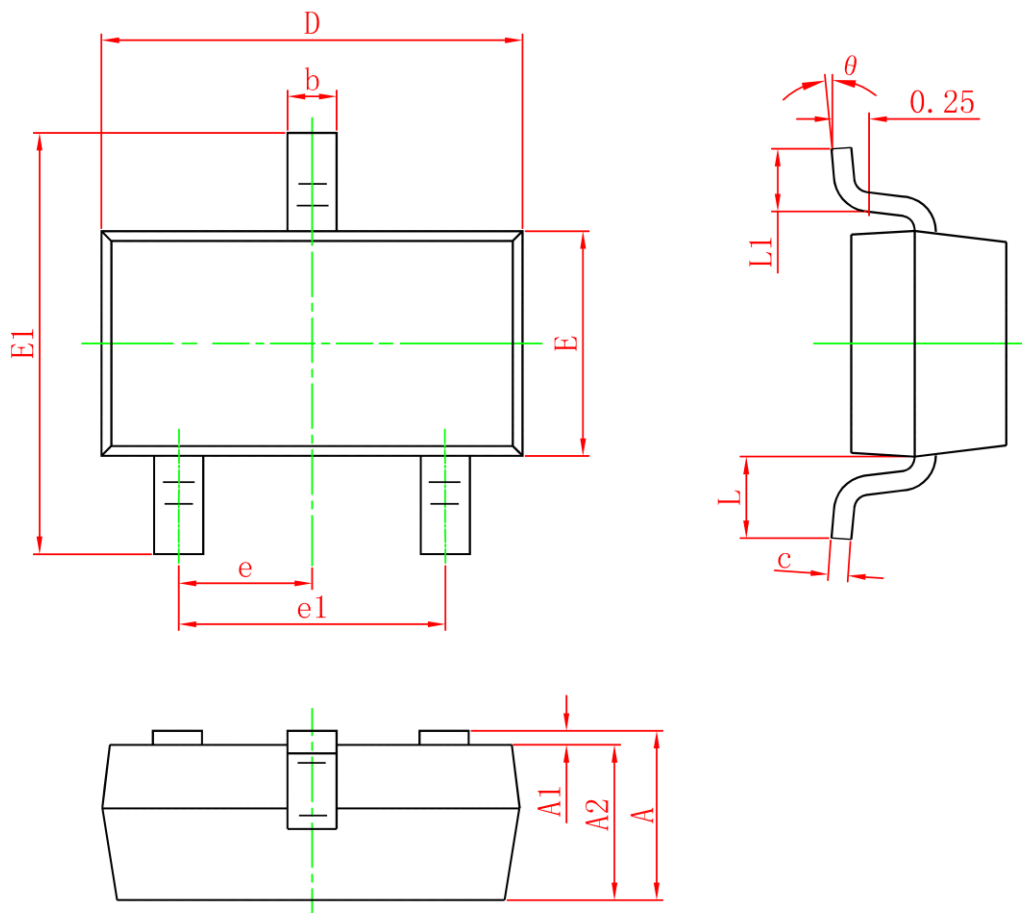
MOSFET ELECTRICAL CHARACTERISTICS(T_a=25℃ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D =250μA	20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =16V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±12V, V _{DS} = 0V			±100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.4	0.7	1.0	V
Drain-source on-resistance	R _{DS(on)}	V _{GS} =10V, I _D =5.0A		14	22	mΩ
		V _{GS} =4.5V, I _D =5.0A		15	27	
		V _{GS} =2.5V, I _D =4.7A		18	42	
		V _{GS} =1.8V, I _D =4.3A		30	45	
Forward tranconductance	g _{FS}	V _{DS} =5V, I _D =3.8A	4			S
Diode Forward voltage	V _{DS}	V _{GS} =0V, I _S =1A			1	V
Dynamic characteristics*						
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f=1MHz		630		pF
Output Capacitance	C _{oss}			164		
Reverse Transfer Capacitance	C _{rss}			137		
Gate resistance	R _g	f =1MHz		1.5		Ω
Switching Characteristics*						
Turn-on delay time	t _{d(on)}	V _{GS} =5V, V _{DS} =10V, R _L =1.7Ω, R _{GEN} =6Ω		5.5		ns
Turn-on rise time	t _r			14		
Turn-off delay time	t _{d(off)}			29		
Turn-off fall time	t _f			10.2		

*These parameters have no way to verify.

Typical Electrical and Thermal Characteristics



SOT-23 Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0	0.100	0	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.150	1.500	0.045	0.059
E1	2.250	2.650	0.089	0.104
e	0.950TYP		0.037TYP	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.022REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°