

Features

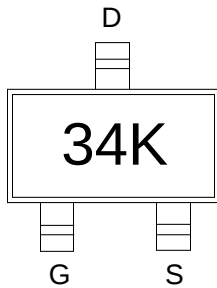
- Trench Power LV MOSFET technology
- High Power and current handing capability

Application

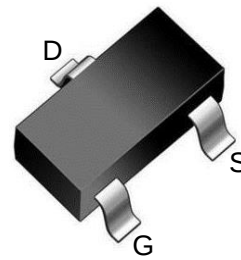
- Load/Power Switching
- Interfacing Switching
- Logic Level Shift

20V/0.75A N-Channel MOSFET Product Summary

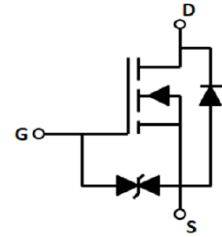
V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
20V	350mΩ@4.5V	0.75A
	400mΩ@2.5V	



34K: Device code



SOT-23 top view



Schematic diagram

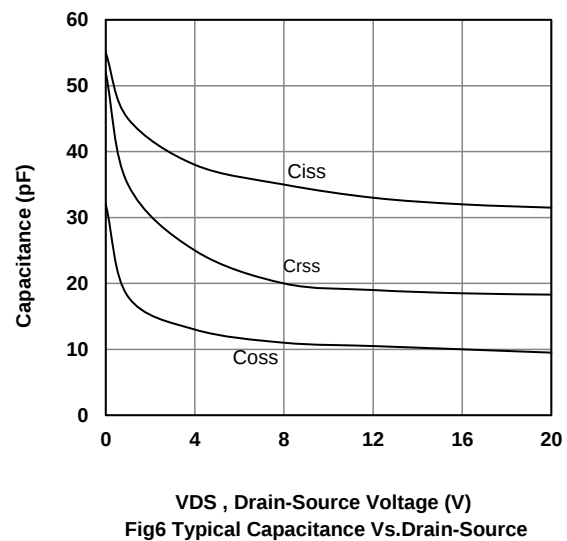
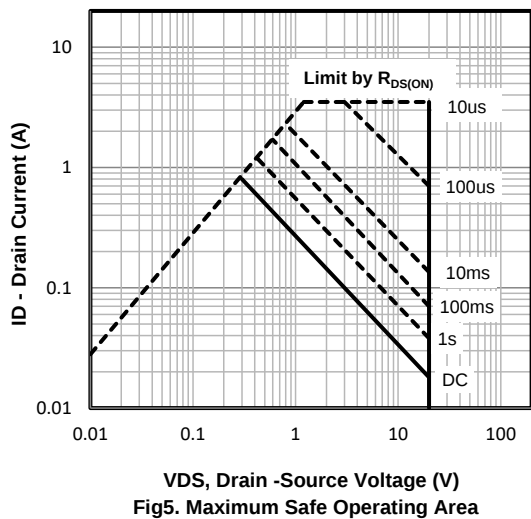
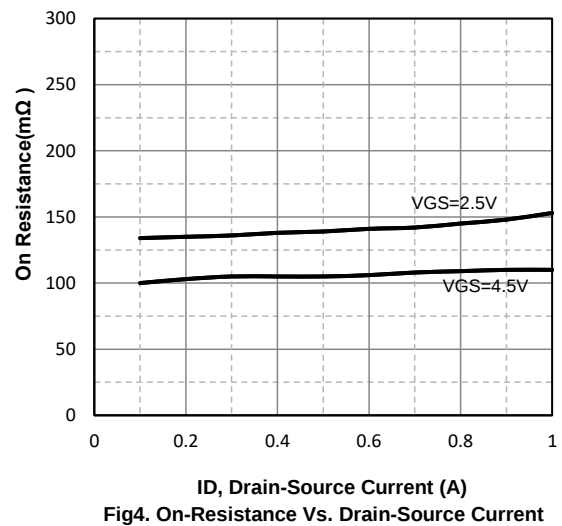
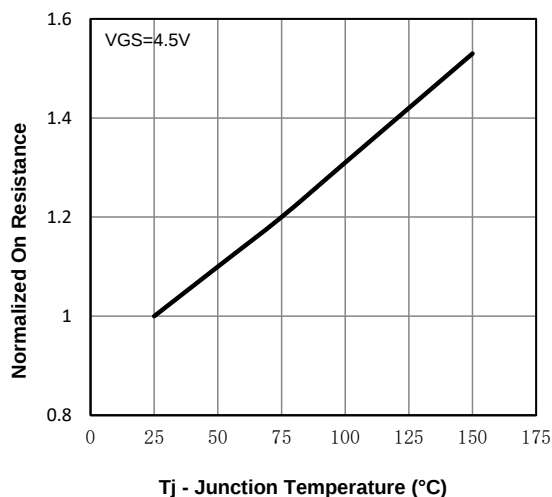
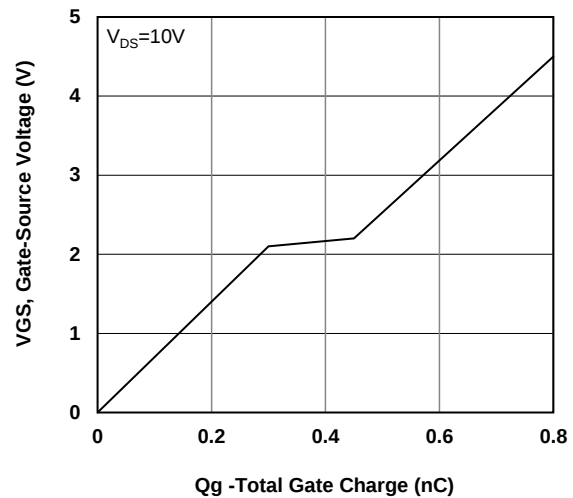
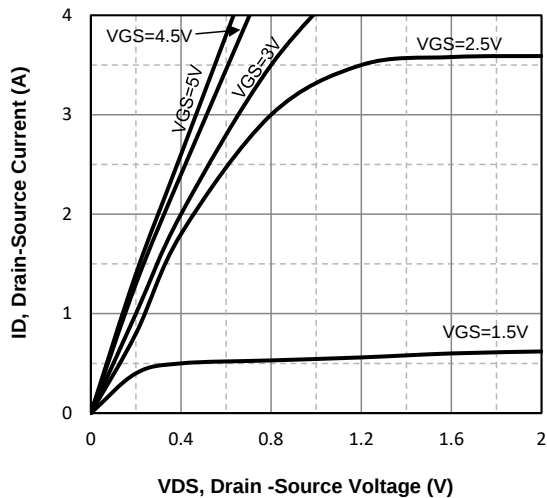


Marking and pin assignment

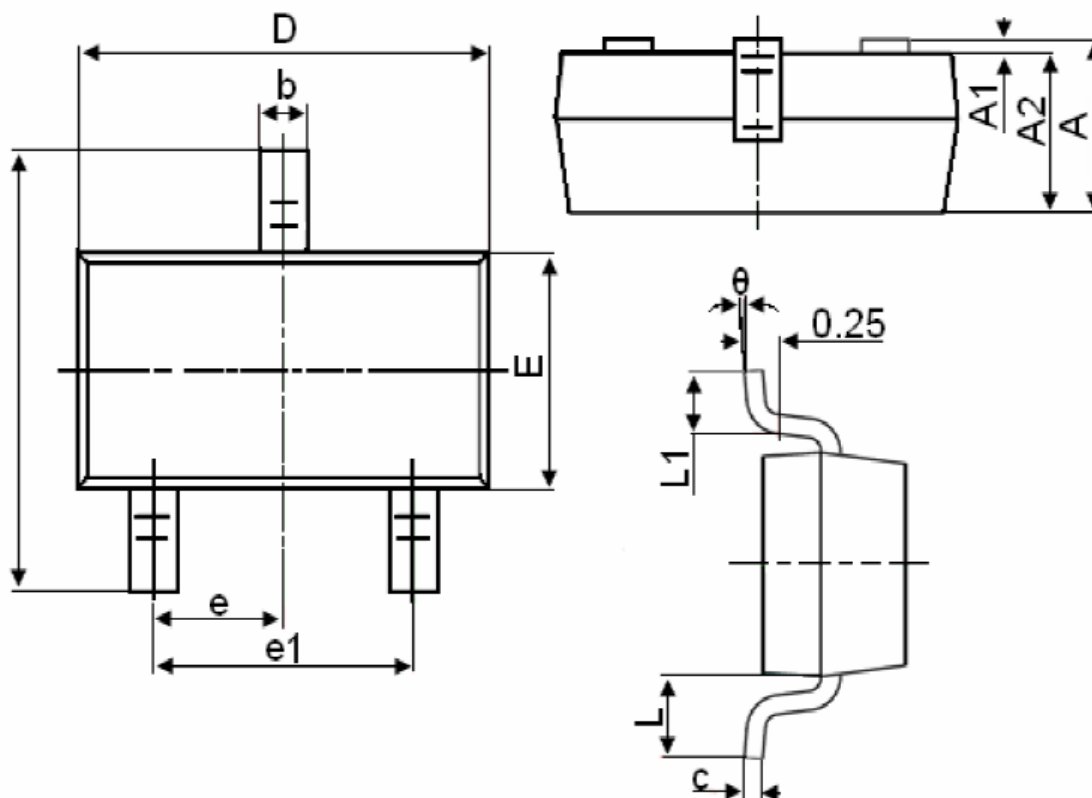
Absolute Maximum Ratings (TA=25 °C unless otherwise noted)				
Symbol	Parameter		Rating	Unit
Common Ratings (TC=25°C Unless Otherwise Noted)				
V _{DS}	Drain-Source Breakdown Voltage		20	V
V _{GS}	Gate-Source Voltage		±12	V
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-50 to 155	°C
I _S	Diode Continuous Forward Current	Tc=25°C	0.75	A
Mounted on Large Heat Sink				
I _{DM}	Pulse Drain Current Tested	Tc=25°C	1.8	A
I _D	Continuous Drain Current@GS=10V	Tc=25°C	0.75	A
P _D	Maximum Power Dissipation	Tc=25°C	0.35	W
R _{θJA}	Thermal Resistance Junction-to-Ambient @ Steady State		357	°C/W

Electrical Characteristics (TJ=25℃ unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ TJ = 25℃ (unless otherwise stated)						
BV _{(BR)DSS}	Drain-Source Breakdown Voltage	VGS=0V, ID=250μA	20	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	VDS=20V, VGS=0V	--	--	1	uA
I _{GSS}	Gate-Body Leakage Current	VGS=±12V, VDS=0V	--	--	±20	uA
V _{GS(th)}	Gate Threshold Voltage	VDS=VGS, ID=250μA	0.35	0.7	1.1	V
R _{DS(on)}	Drain-Source On-State Resistance	VGS=4.5V, ID=0.65A	--	100	350	mΩ
		VGS=2.5V, ID=0.55A	--	135	400	
		VGS=1.8V, ID=0.45A	--	200	800	
Dynamic Electrical Characteristics @ TJ = 25℃ (unless otherwise stated)						
C _{ISS}	Input Capacitance	VDS=10V, VGS=0V, f=1MHz	--	33	--	pF
C _{OSS}	Output Capacitance		--	21	--	pF
C _{RSS}	Reverse Transfer Capacitance		--	10	--	pF
Switching Characteristics						
Q _g	Total Gate Charge	VDS=10V, ID=0.5A, VGS=4.5V	--	0.8	--	nC
Q _{gs}	Gate Source Charge		--	0.3	--	nC
Q _{gd}	Gate Drain Charge		--	0.17	--	nC
t _{d(on)}	Turn-on Delay Time	VDD=10V, ID=0.5A, VGS=4.5V, RG=10Ω	--	4.2	--	nS
t _r	Turn-on Rise Time		--	19.1	--	nS
t _{d(off)}	Turn-Off Delay Time		--	10.3	--	nS
t _f	Turn-Off Fall Time		--	24	--	nS
Source- Drain Diode Characteristics						
V _{SD}	Forward on voltage	Tj=25℃, Is=0.5A,	--	--	1.2	V

Typical Operating Characteristics



SOT-23 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	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	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
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°