

SOT23

Product Summary

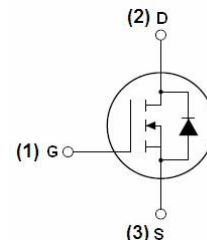
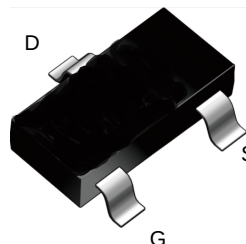
- V_{DS} 60V
- I_D 3.0A
- $R_{DS(ON)}$ (at $V_{GS}=10V$) < 80 mohm
- $R_{DS(ON)}$ (at $V_{GS}=4.5V$) < 100 mohm

General Description

- Trench Power MV MOSFET technology
- Excellent package for heat dissipation
- High density cell design for low $R_{DS(ON)}$

Applications

- DC-DC Converters
- Power management functions



Ordering Information (Example)

PREFERED P/N	PACKING	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
LGE03N06BF	SOT-23	080FN	3000	45000	180000	7" reel

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

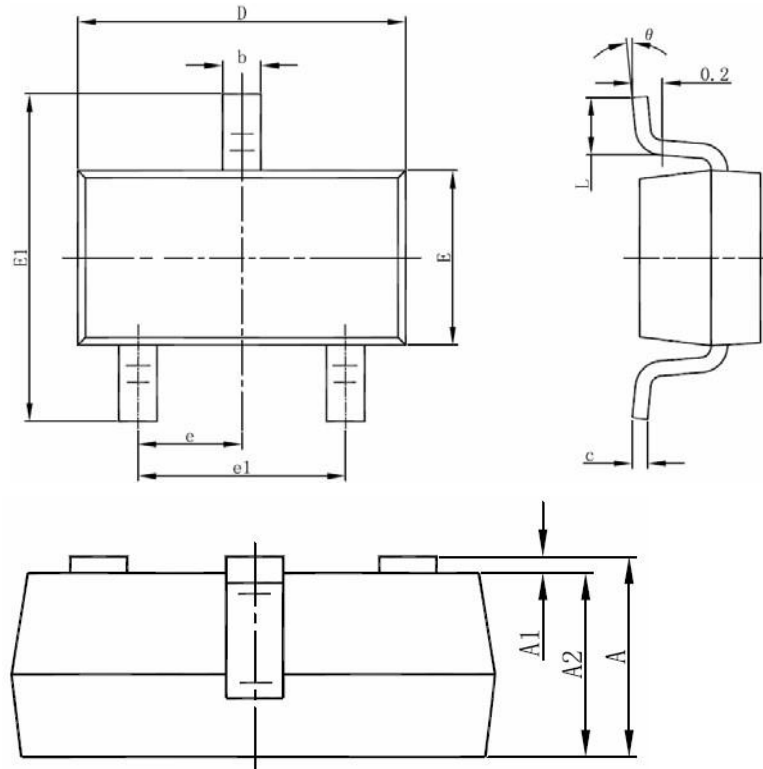
Parameter	Symbol	Limit	Unit
Drain-source Voltage	V_{DS}	60	V
Gate-source Voltage	V_{GS}	± 20	V
Drain Current	I_D	3.0	A
Pulsed Drain Current ^A	I_{DM}	12	A
Total Power Dissipation @ $T_C=25^{\circ}C$	P_D	1.2	W
Thermal Resistance Junction-to-Ambient ^B	$R_{\theta JA}$	105	$^{\circ}C/W$
Junction and Storage Temperature Range	T_J, T_{STG}	-55~+150	$^{\circ}C$

■ Electrical Characteristics (T_J=25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D =250μA	60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V,V _{GS} =0V			1	μA
Gate-Body Leakage Current	I _{GSS1}	V _{GS} = ±20V, V _{DS} =0V			±100	nA
	I _{GSS2}	V _{GS} = ±12V, V _{DS} =0V			±50	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =250μA	1.1	1.7	2.3	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} = 10V, I _D =2A			80	mΩ
		V _{GS} = 4.5V, I _D =1.5A			100	
Diode Forward Voltage	V _{SD}	I _S =2.0A,V _{GS} =0V		0.8	1.2	V
Maximum Body-Diode Continuous Current	I _S				2.0	A
Dynamic Parameters						
Input Capacitance	C _{iSS}	V _{DS} =30V,V _{GS} =0V,f=1MHZ		330		pF
Output Capacitance	C _{oSS}			90		
Reverse Transfer Capacitance	C _{rSS}			17		
Switching Parameters						
Total Gate Charge	Q _g	V _{GS} =10V,V _{DS} =30V,I _D =2.0A		5.1		nC
Gate-Source Charge	Q _{gs}			1.3		
Gate-Drain Charge	Q _{gd}			1.7		
Turn-on Delay Time	t _{D(on)}	V _{GS} =10V,V _{DD} =30V, I _D =1.5A,R _L =1Ω R _{GEN} =3Ω		13		ns
Turn-on Rise Time	t _r			51		
Turn-off Delay Time	t _{D(off)}			19		
Turn-off fall Time	t _f			12		

- A. Pulse Test: Pulse Width ≤ 300μs, Duty cycle ≤ 2%.
 B. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.

■ SOT23 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	0.090	0.100	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.800	3.000	0.111	0.119
E	1.200	1.400	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°