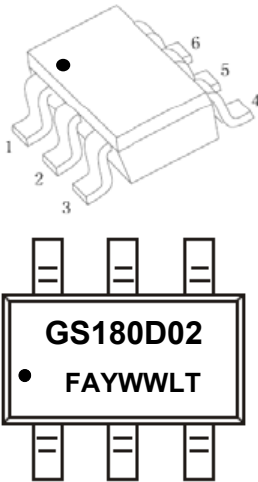


Product Summary

V_{DS} (V)	$R_{DS(on),max}$ (mΩ)	I_D (A)
20	18 @ $V_{GS} = 4.5V$	7

View and Internal Schematic Diagram



SOT23-6L

NOTE:
 LOGO - GS
 180D02- Part number code
 F - Fab location code
 A - Assembly location code
 Y - Year code
 WW - Week code
 L&T - Assembly lot code

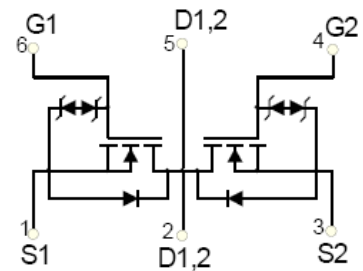
Features

- High power and current handling capability
- Lead free product is acquired
- Surface mount package

Application

- Uni-directional load switch
- Bi-directional load switch

Equivalent circuit



Absolute maximum rating@25°C

Parameter	Symbol	Limit	Unit
Drain-source voltage	V_{DS}	20	V
Gate-source voltage	V_{GS}	±10	
Continuous drain current ($V_{GS}=4.5V$) $T_A=25^\circ C$	I_D	7	A
Pulsed drain current	$I_{D,pulse}$	28	A
Power dissipation $T_A=25^\circ C$	P_D	2	W
Operating junction and storage temperature range	T_J, T_{stg}	-55 to 150	°C

Thermal Characteristic

Parameter	Symbol	Typ.	Max.	Unit
Thermal Resistance, Junction-to-Ambient (°C)	$R_{\theta JA}$	62.5		°C/W

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
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} =±10V, V _{DS} = 0V			±5	μA
Gate threshold voltage (note 1)	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.4	0.7	1.0	V
Drain-source on-resistance (note 1)	R _{DS(on)}	V _{GS} =4.5V, I _D =5A		14	18	mΩ
		V _{GS} =2.5V, I _D =3A		17	22	mΩ
Forward tranconductance (note 1)	g _{FS}	V _{DS} =5V, I _D =7A	9			S
Diode forward voltage(note 1)	V _{SD}	I _S =1A, V _{GS} = 0V			1	V
DYNAMIC PARAMETERS (note 2)						
Input Capacitance	C _{iss}	V _{DS} =10V,V _{GS} =0V,f =1MHz		550		pF
Output Capacitance	C _{oss}			103		pF
Reverse Transfer Capacitance	C _{rss}			90		pF
Total gate charge	Q _g	V _{DS} =10V,V _{GS} =4.5V,I _D =6A		7.8		nC
Gate-source charge	Q _{gs}			2.3		nC
Gate-drain charge	Q _{gd}			3		nC
SWITCHING PARAMETERS(note 2)						
Turn-on delay time	t _{d(on)}	V _{GS} =5V,V _{DD} =10V, R _L =1.5Ω,R _{GEN} =3Ω		0.6		ns
Turn-on rise time	t _r			1		ns
Turn-off delay time	t _{d(off)}			13		ns
Turn-off fall time	t _f			4.5		ns

Notes :

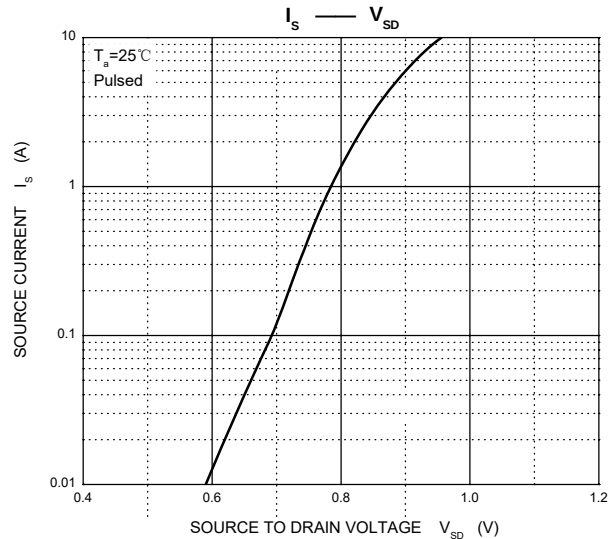
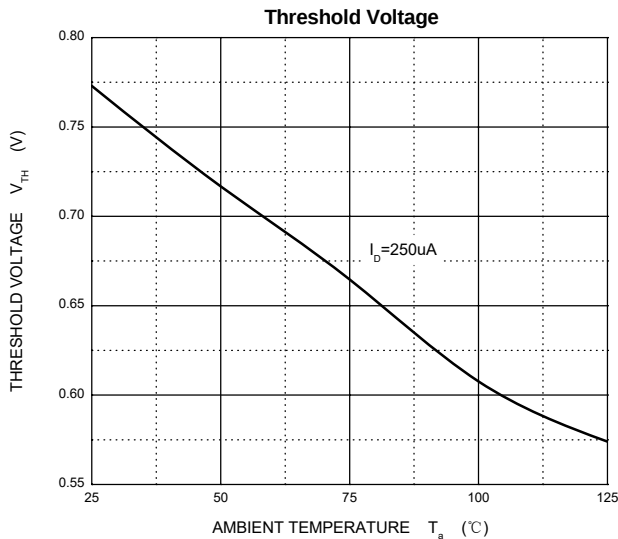
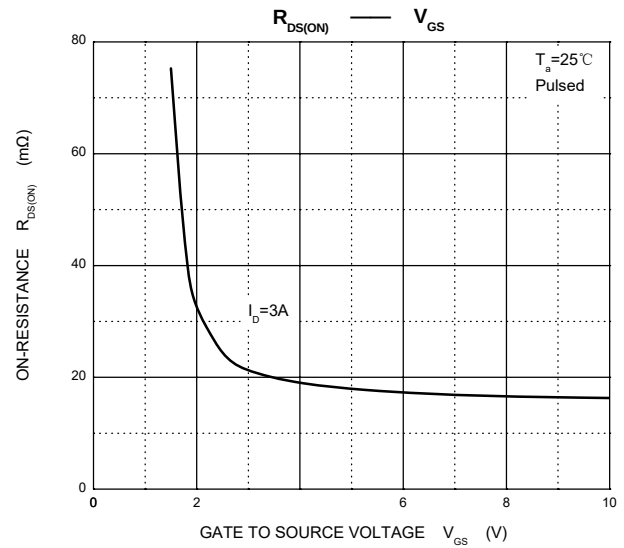
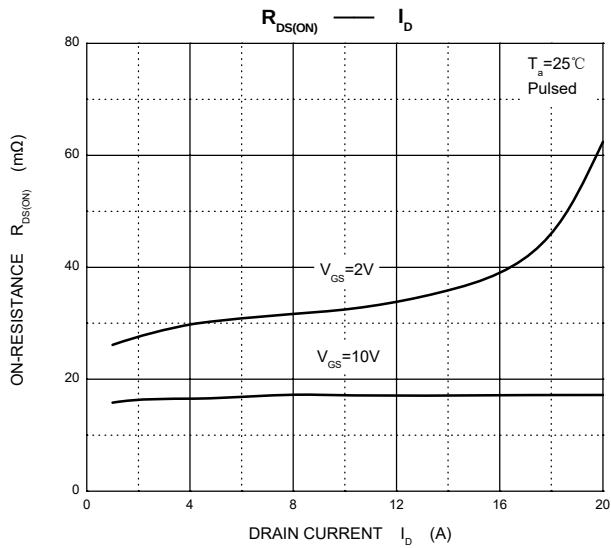
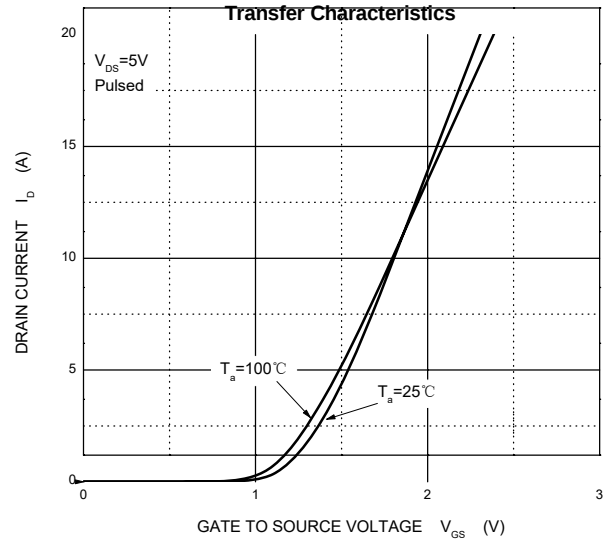
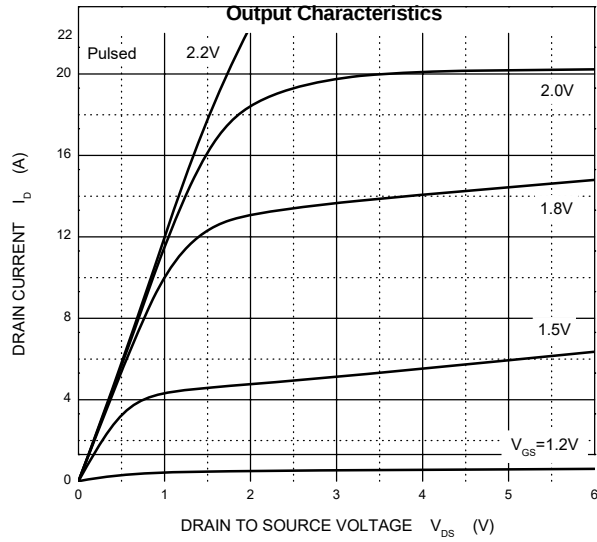
1. Pulse Test : Pulse width ≤ 300μs, duty cycle ≤ 0.5%.
2. Guaranteed by design, not subject to production testing.



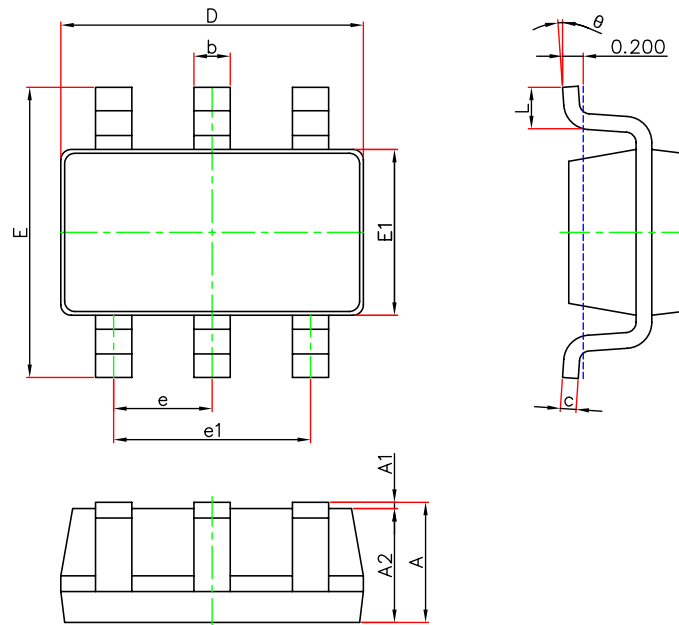
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GMT180D02H4

Typical Performance Characteristics



Outline Drawing SOT23-6L



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
E1	1.500	1.700	0.059	0.067
E	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°

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