

Product Summary

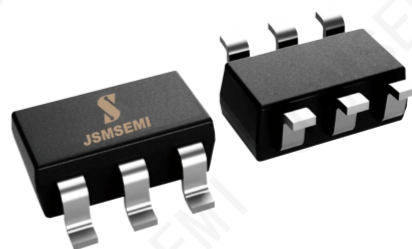
- V_{DS} 20V
- I_D 6A
- $R_{DS(ON)}$ (at $V_{GS}=4.5V$) $<28m\Omega$
- 100% EAS Tested
- 100% ∇V_{DS} Tested

General Description

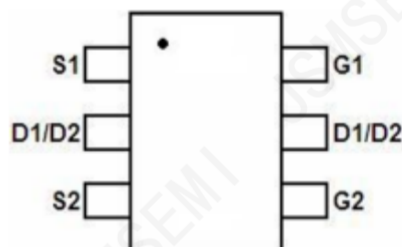
- Trench Power MOSFET technology
- Excellent package for heat dissipation
- High density cell design for low $R_{DS(ON)}$
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

Applications

- Power switching application
- Uninterruptible power supply
- DC-DC convertor
- Motor drivers



SOT-23-6L



Maximum rated value and thermal characteristics

($T_a = 25^\circ\text{C}$, unless otherwise specified)

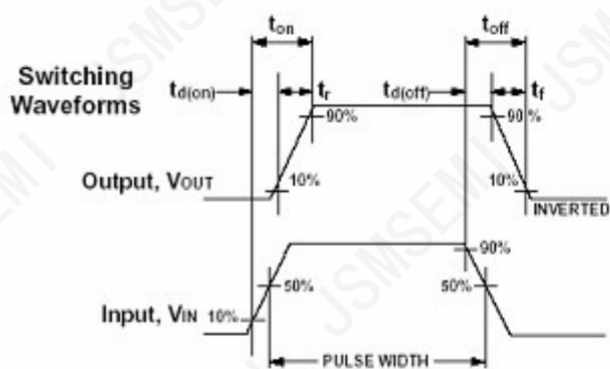
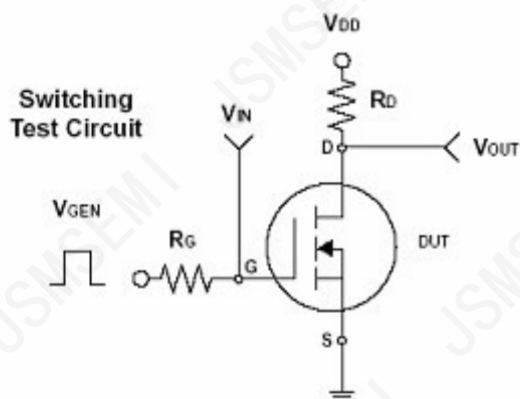
Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	± 12	
Continuous leakage current, $V_{GS}=4.5V$		$I_D @ T_A=25^\circ\text{C}$	6	A
Pulsed Drain Current		I_{DM}	20	
Power Dissipation	$T_A = 25^\circ\text{C}$	P_D	2	W
	$T_A = 75^\circ\text{C}$		1.3	
Operating and Storage Junction Temperature Range		T_J, T_{stg}	-55 to 150	$^\circ\text{C}$
Loop resistance (for PCB mounting)		$R_{\theta JA}$	62.5	$^\circ\text{C/W}$

Note: Repeatability limit value: Pulse width is restricted by the maximum junction temperature.

Electrical characteristics

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D = 250uA	20	--	--	V
Drain-source resistance	R _{DS(on)}	V _{GS} = 1.8V, I _D = 2.0A	--	53.0	75.0	mΩ
		V _{GS} = 2.5V, I _D = 3.5A	--	30.0	38.0	
		V _{GS} = 4.5V, I _D = 4.5A		22.0	28.0	
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250uA	0.5	--	1.5	V
Drain current during a gate-source short circuit	I _{DSS}	V _{DS} = 20V, V _{GS} = 0V	--	--	1	uA
Cut-off gate current during drain short circuit	I _{GSS}	V _{GS} = ±12V, I _D =0uA	--	--	±100	nA
Grid-plate transconductance	g _{fs}	V _{DS} = 15V, I _D = 6.0A	--	29	--	S
Dynamic						
Gate Charge	Q _g	V _{DS} = 10V, I _D = 6A		6.24	8.11	nC
Gate-Source Charge	Q _{gs}	V _{gs} =4.5V		1.64	2.13	
Gate-Drain Charge	Q _{gd}			1.34	1.74	
Turn-On Delay Time	t _{d(on)}	V _{op} =10V, I _o =6A I _o =1A, V _{cs} =4.5V		10.4	20.8	ns
Rise Time	t _r			4.4	8.8	
Turn-Off Delay Time	t _{d(off)}			27.36	54.72	
Fall Time	t _f			4.16	8.32	
Input Capacitance	C _{iss}	V _{os} =8V, V _{cs} =0V f=1.0MHz	-	522.3	-	pF
Output Capacitance	C _{oss}		-	98.48	-	
Reverse Transfer Capacitance	C _{rss}		-	74.69	-	
Source-drain diode						
Maximum forward current of the diode	I _s		-	-	1.7	A
Forward voltage drop	V _{sp}	I _s =1.7A, V _{cs} =0V	-	-	1.2	V

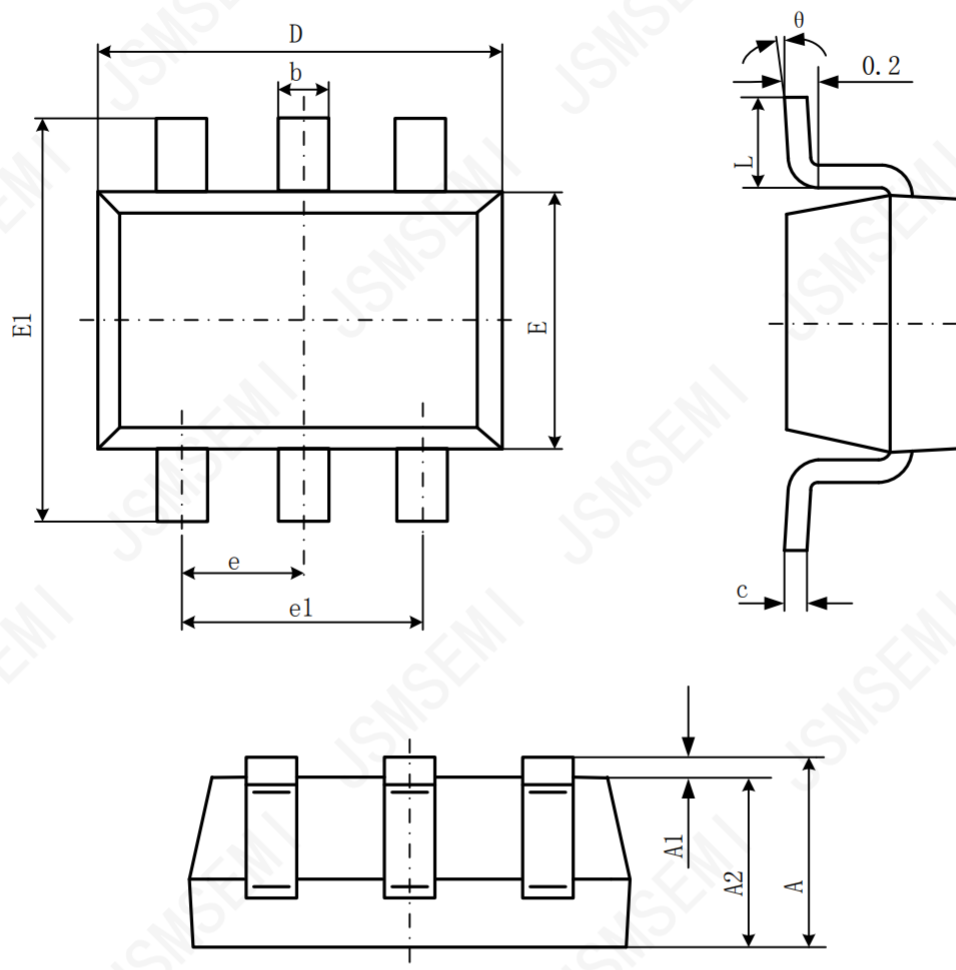
 Note: Pulse test: Pulse width $\leq 300 \mu s$, duty cycle $\leq 2\%$



Ordering Information

Order number	Package	Marking	Operation Temperature Range	MSL Grade	Ship, Quantity	Green
AO6800-JSM	SOT-23-6L	H0JS	-55 to 150°C	1	T&R, 3000	RoHS

Package Information SOT-23-6L



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
E	1.500	1.700	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°

Revision History

Rev.	Change	Date
V1.0	Initial version	6/27/2021

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