Lastinght

JH6003L

★ Green Device Available
★ Super Low Gate Charge
★ Excellent Cdv/dt effect decline
★ Advanced high cell density Trench technology

Product Summary

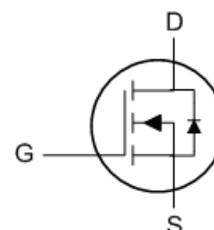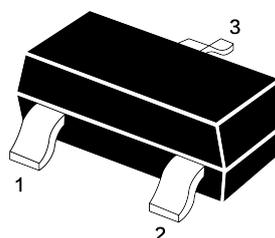| BVDSS	RDSON	ID
60V	75mΩ	3 A

Description

The JH6003L is the high cell density trenched N-ch MOSFETs, which provides excellent RDSON and efficiency for most of the small power switching and load switch applications.
The JH6003L   meet the RoHS and Green Product requirement with full function reliability approved.

SOT-23-3L Pin Configuration

Absolute Maximum Ratings (T$_A$=25℃ unless otherwise specified)

Symbol	Parameter		Max.	Units
V$_{DSS}$	Drain-Source Voltage		60	V
V$_{GSS}$	Gate-Source Voltage		±20	V
I$_D$	Continuous Drain Current	T$_A$ = 25℃	3	A
		T$_A$ = 100℃	2	A
I$_{DM}$	Pulsed Drain Current [note1]		12	A
P$_D$	Power Dissipation	T$_A$ = 25℃	1.5	W
R$_{θJA}$	Thermal Resistance, Junction to Ambient		83	℃/W
T$_J$, T$_{STG}$	Operating and Storage Temperature Range		-55 to +150	℃

Electrical Characteristics (T$_J$=25℃ unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristic						
V$_{(BR)DSS}$	Drain-Source Breakdown Voltage	V$_{GS}$=0V, I$_D$=250µA	60	-	-	V
I$_{DSS}$	Zero Gate Voltage Drain Current	V$_{DS}$=60V, V$_{GS}$=0V,	-	-	1.0	µA
I$_{GSS}$	Gate to Body Leakage Current	V$_{DS}$=0V, V$_{GS}$=±20V	-	-	±100	nA
On Characteristics						
V$_{GS(th)}$	Gate Threshold Voltage	V$_{DS}$=V$_{GS}$, I$_D$=250µA	1.0	1.4	2.0	V
R$_{DS(on)}$	Static Drain-Source on-Resistance note2	V$_{GS}$=10V, I$_D$=3A	-	75	100	mΩ
		V$_{GS}$=4.5V, I$_D$=2A	-	85	120	
Dynamic Characteristics						
C$_{iss}$	Input Capacitance	V$_{DS}$=25V, V$_{GS}$=0V, f=1.0MHz	-	350	-	pF
C$_{oss}$	Output Capacitance		-	29	-	pF
C$_{rss}$	Reverse Transfer Capacitance		-	23	-	pF
Q$_g$	Total Gate Charge	V$_{DS}$=30V, I$_D$=3A, V$_{GS}$=10V	-	9	-	nC
Q$_{gs}$	Gate-Source Charge		-	1.5	-	nC
Q$_{gd}$	Gate-Drain("Miller") Charge		-	2	-	nC
Switching Characteristics						
t$_{d(on)}$	Turn-on Delay Time	V$_{DD}$=30V,I$_D$=2A, R$_{GEN}$=3Ω, V$_{GS}$=10V	-	5	-	ns
t$_r$	Turn-on Rise Time		-	7	-	ns
t$_{d(off)}$	Turn-off Delay Time		-	37	-	ns
t$_f$	Turn-off Fall Time		-	22	-	ns
Drain-Source Diode Characteristics and Maximum Ratings						
I$_S$	Maximum Continuous Drain to Source Diode Forward Current		-	-	3	A
I$_{SM}$	Maximum Pulsed Drain to Source Diode Forward Current		-	-	12	A
V$_{SD}$	Drain to Source Diode Forward Voltage	V$_{GS}$ = 0V, I$_S$=3A	-	-	1.2	V

Notes:1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature
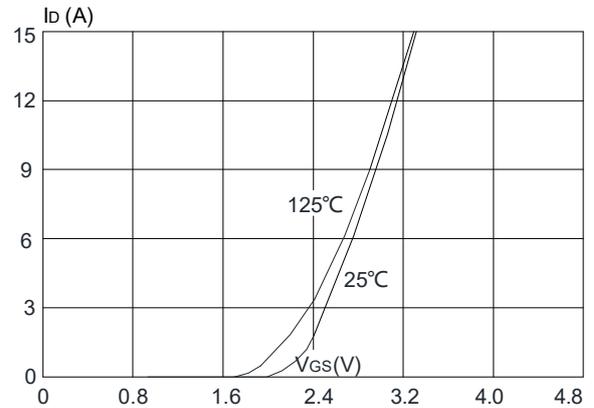
2. Pulse Test: Pulse Width≤300µs, Duty Cycle≤0.5%
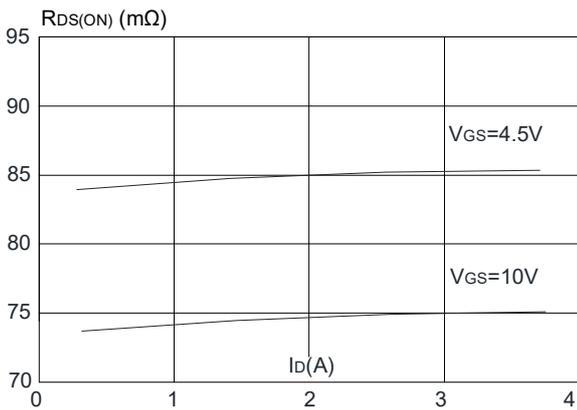
Typical Performance Characteristics
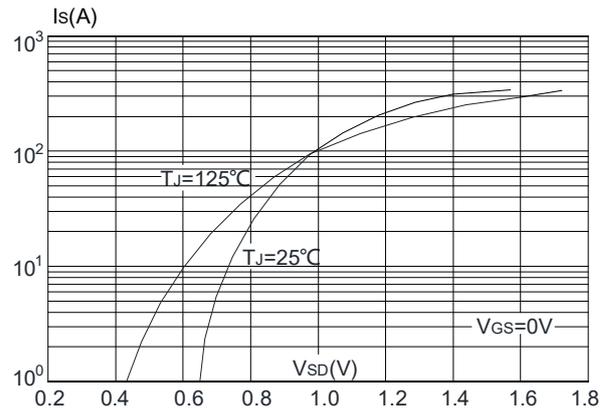
Figure1: Output Characteristics
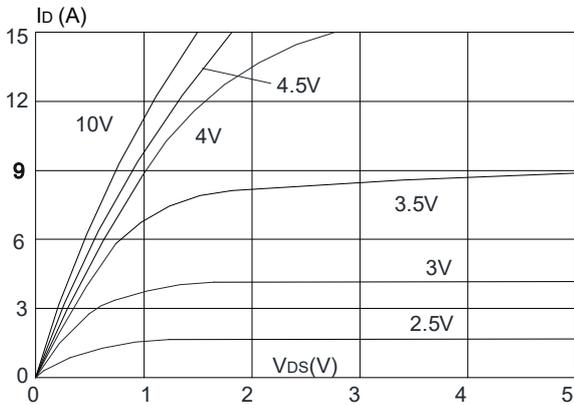
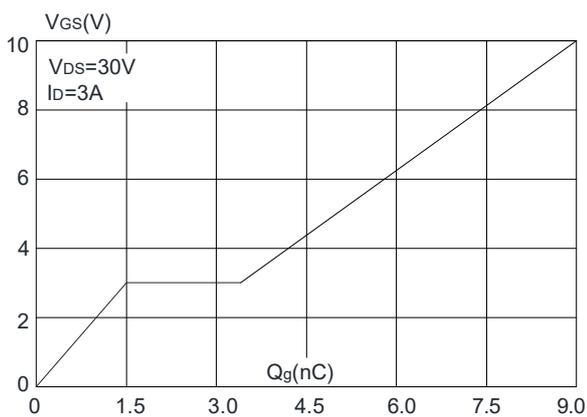**Figure 2:** Typical Transfer Characteristics

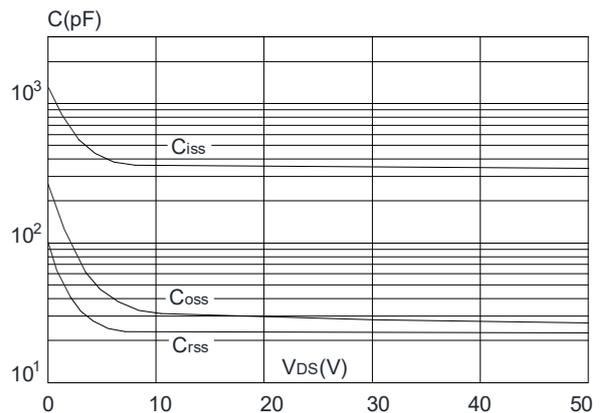**Figure 3:** On-resistance vs. Drain Current
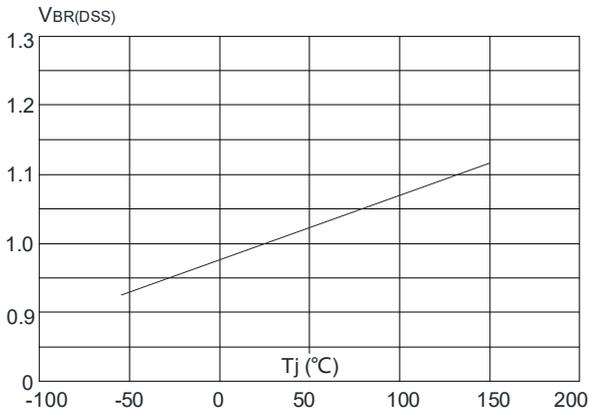

Figure 4: Body Diode Characteristics

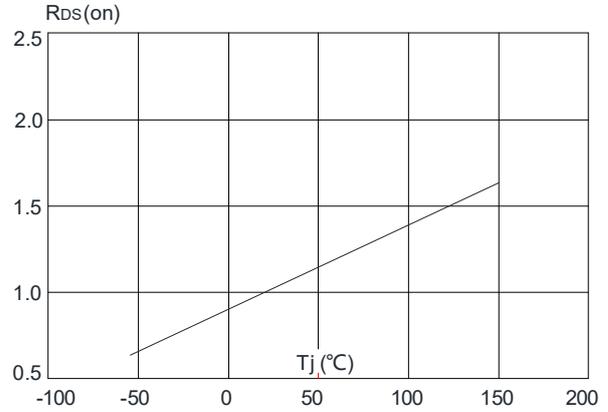**Figure 5:** Gate Charge Characteristics

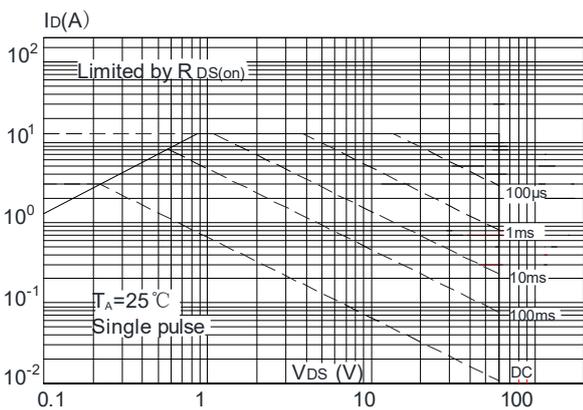**Figure 6:** Capacitance Characteristics

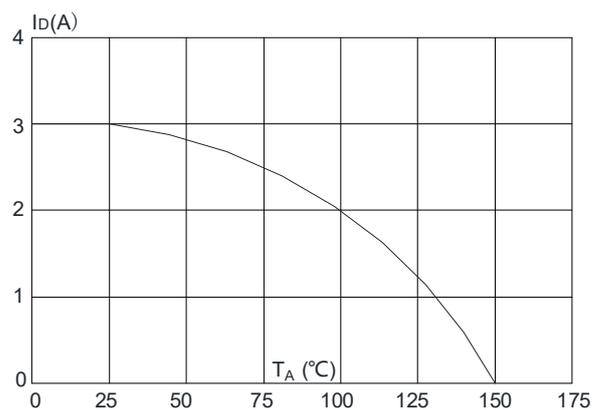**Figure 7:** Normalized Breakdown Voltage vs. Junction Temperature

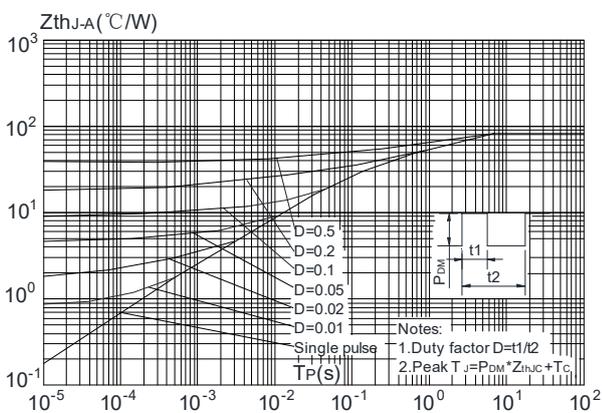**Figure 8:** Normalized on Resistance vs. Junction Temperature

Figure 9: Maximum Safe Operating Area

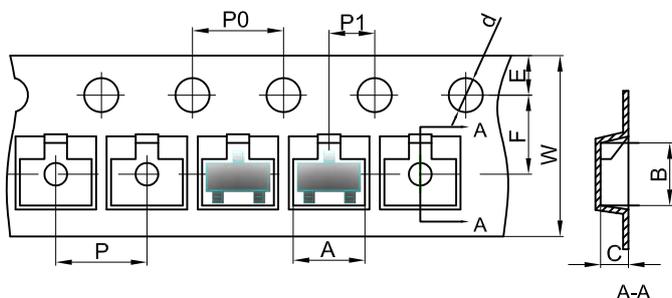**Figure 10:** Maximum Continuous Drain Current vs.Ambient Temperature

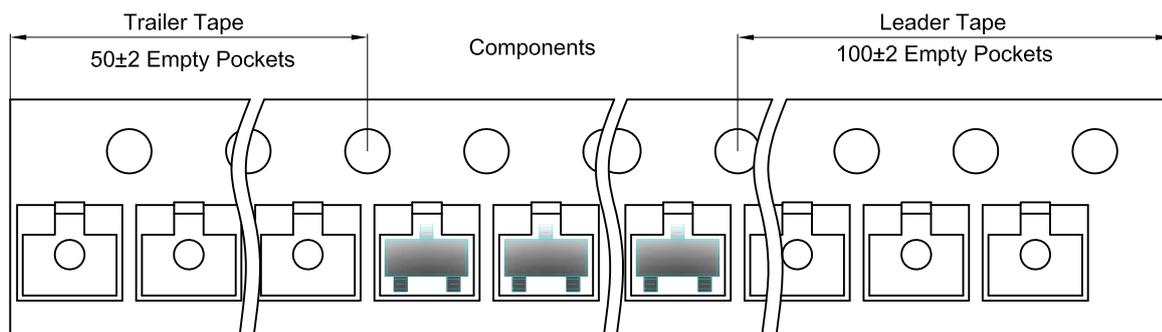**Figure.11:** Maximum Effective Transient Thermal Impedance, Junction-to-Ambient

SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

Dimensions are in millimeter									
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer

Trailer Tape
50±2 Empty Pockets

Components

Leader Tape
100±2 Empty Pockets

SOT-23 Reel
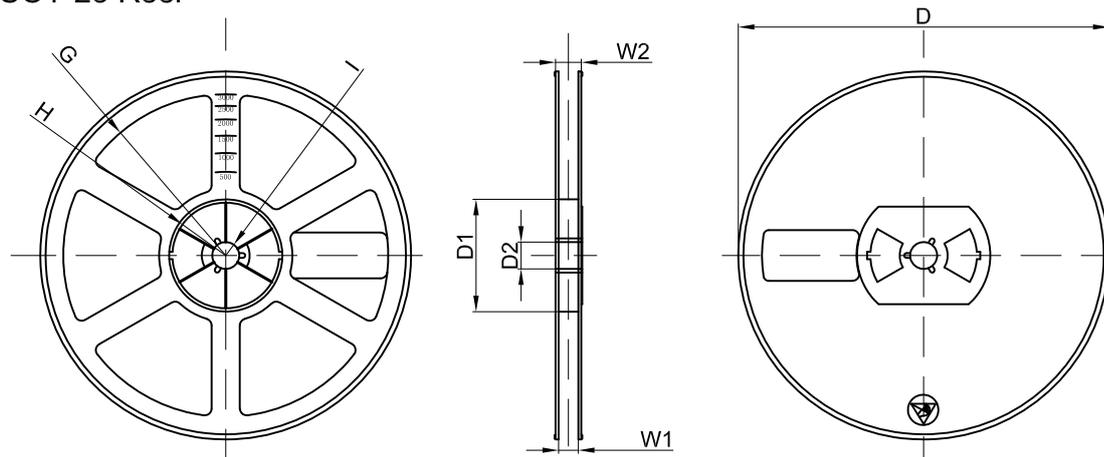
Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7"Dia	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	
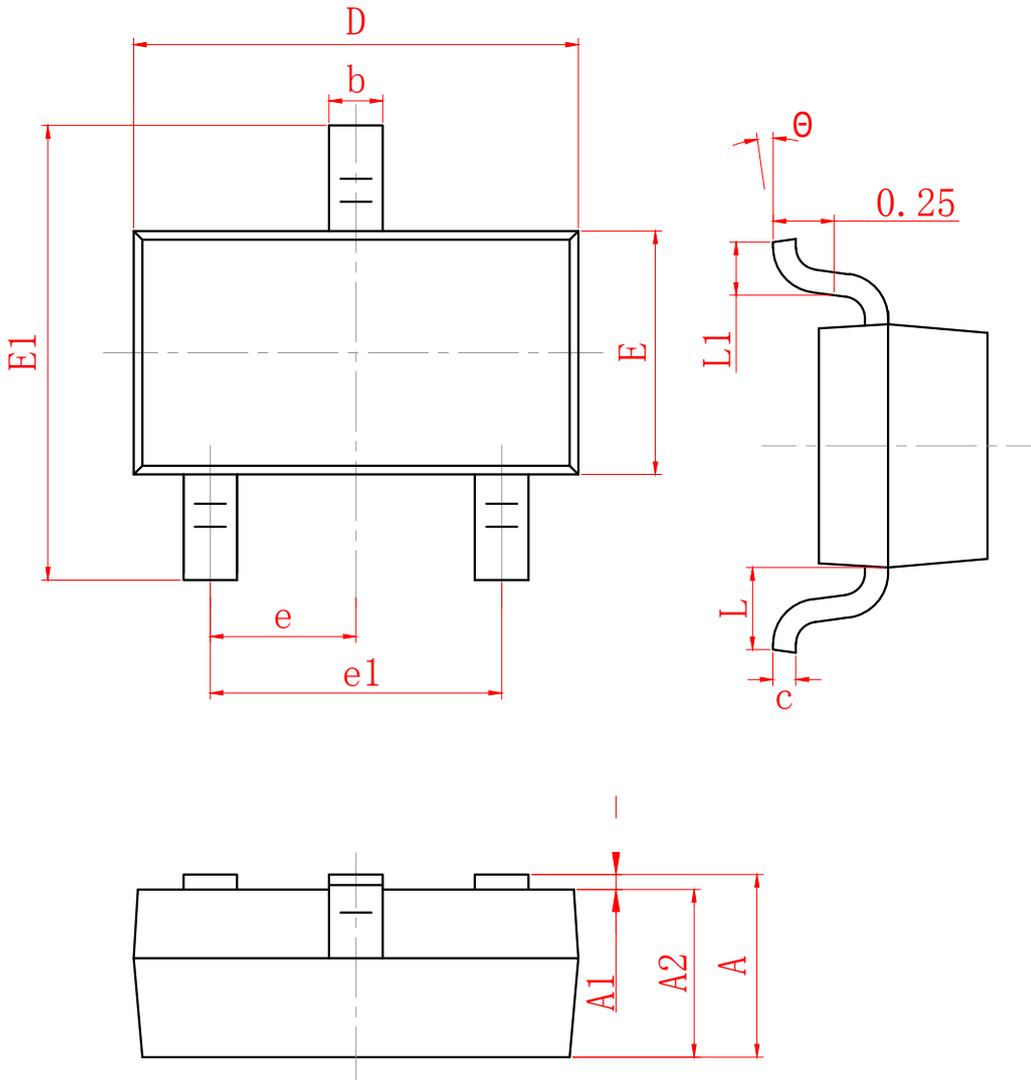
SYMBOL	MILLIMETER	
	MIN	MAX
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950 TYP	
e1	1.800	2.000
L	0.550 REF	
L1	0.300	0.500
θ	0°	8°

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