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

Product Summary

Green

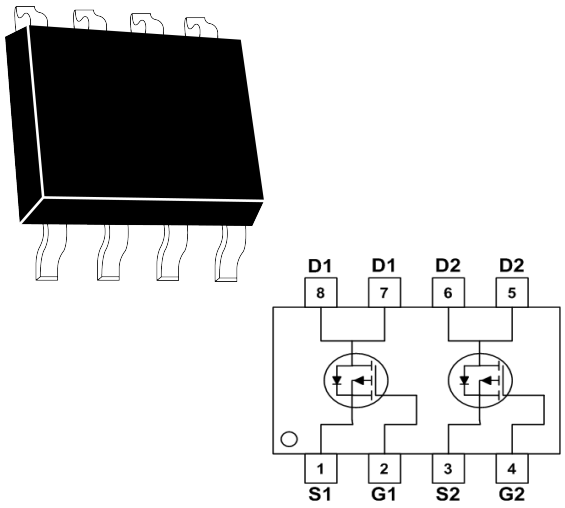
BVDSS	RDSON	ID
-30V	35mΩ	-5.3A

Description

The JH4803A is the high cell density trenched P-ch MOSFETs, which provide excellent RDSON and gate charge for most of the synchronous buck converter applications.

The JH4803A meet the RoHS and Green Product

Dual SOP8 Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	-30	V
V_{GS}	Gate-Source Voltage	±20	V
I_D@T_A=25°C	Continuous Drain Current, V_{GS} @ 10V[1]	-5.3	A
I_D@T_A=70°C	Continuous Drain Current, V_{GS} @ 10V[1]	-4.3	A
I_{DM}	Pulsed Drain Current[2]	-20	A
EAS	Single Pulse Avalanche Energy[3]	---	mJ
I_{AS}	Avalanche Current	---	A
P_D@T_A=25°C	Total Power Dissipation[4]	2.0	W
T_{STG}	Storage Temperature Range	-55 to 150	°C
T_J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
$R_{\theta JA}$	Thermal Resistance Junction-Ambient [1]	---	100	°C/W
$R_{\theta JC}$	Thermal Resistance Junction-Case[1]	---	---	°C/W

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

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} = 0V, I_D = -250μA	-30	-	-	V
Gate-body Leakage current	I_{GSS}	V_{DS} = 0V, V_{GS} = ±20V	-	-	±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -30V, V_{GS} = 0V	-	-	-1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250μA	-1.0	-1.5	-2.1	V
Drain-Source On-Resistance[3]	$R_{DS(on)}$	V_{GS} = -10V, I_D = -4.1A	-	35	55	mΩ
		V_{GS} = -4.5V, I_D = -3A	-	52	85	
Dynamic Characteristics[4]						
Input Capacitance	C_{iss}	V_{DS} = -15V, V_{GS} =0V, f =1MHz	-	530	-	pF
Output Capacitance	C_{oss}		-	70	-	
Reverse Transfer Capacitance	C_{rss}		-	56	-	
Switching Characteristics[4]						
Total Gate Charge	Q_g	V_{GS} = -10V,I_D = -4.1A, V_{DS} = -15V	-	10	-	nC
Gate-Source Charge	Q_{gs}		-	2	-	
Gate-Drain Charge	Q_{gd}		-	2.8	-	
Turn-On Delay Time	$t_{d(on)}$	V_{GS} = -10V ,V_{DD}= -15V, ,R_{GEN} = 6Ω, I_D = -4.1A,	-	6.9	-	ns
Rise Time	t_r		-	12	-	
Turn-Off Delay Time	$t_{d(off)}$		-	19	-	
Fall Time	t_f		-	7.5	-	
Source-Drain Body Diode Characteristics						
Diode Forward Voltage[3]	V_{SD}	I_S = -1.7A, V_{GS} = 0V	-	-	-1.2	V
Continuous Source Current	I_S		-	-	-5.3	A

Notes:

1. Repetitive rating, pulse width limited by junction temperature $T_{J(MAX)}$=150°C.

2. The data tested by surface mounted on a 1 inch2 FR-4 board with 2OZ copper, The value in any given application depends on the user's specific board design.

3. Pulse Test: Pulse width≤300μs, duty cycle≤2%.

4. This value is guaranteed by design hence it is not included in the production test.

Typical Characteristics

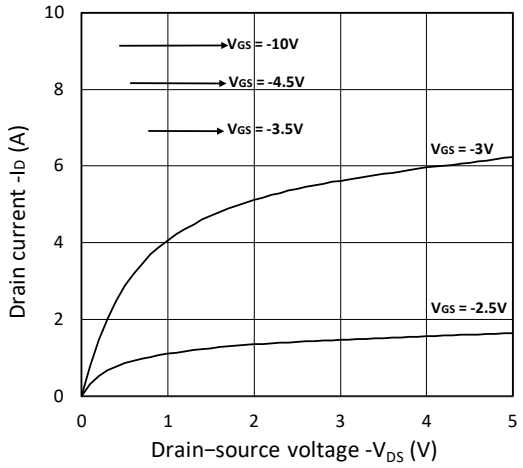


Figure 1. Output Characteristics

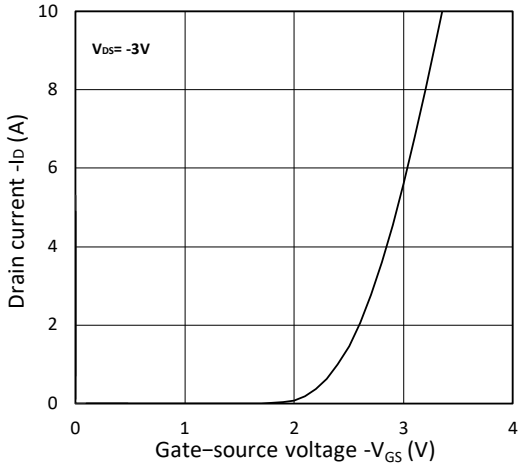


Figure 2. Transfer Characteristics

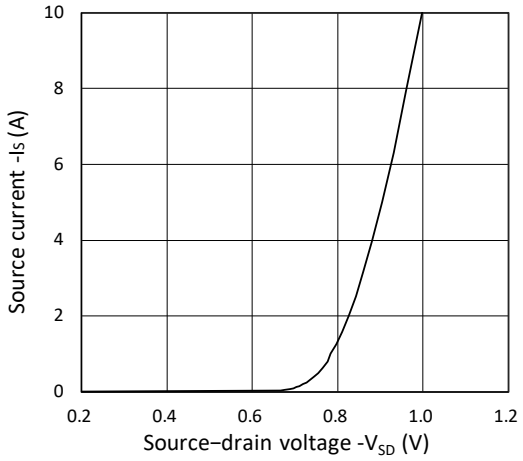


Figure 3. Forward Characteristics of Reverse

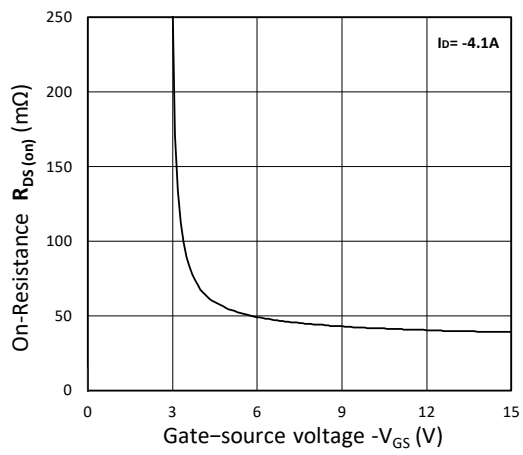


Figure 4. $R_{DS(ON)}$ vs. V_{GS}

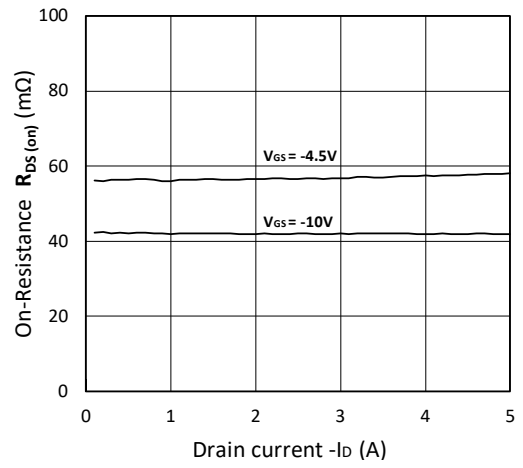


Figure 5. $R_{DS(ON)}$ vs. I_D

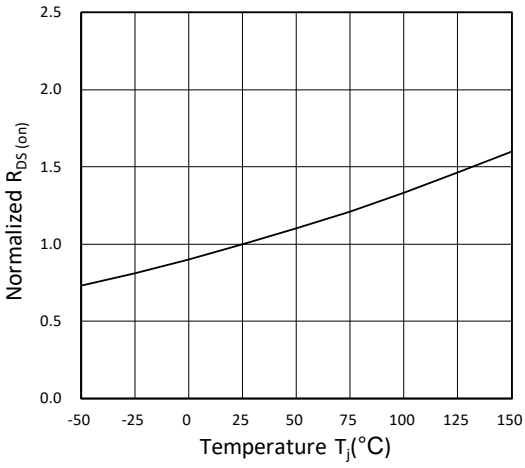


Figure 6. Normalized $R_{DS(on)}$ vs. Temperature

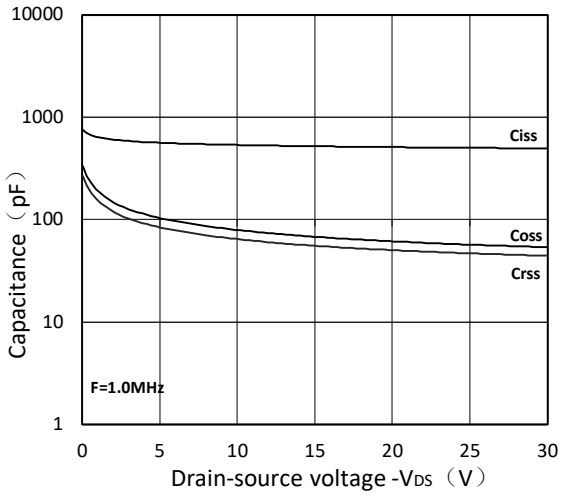


Figure 7. Capacitance Characteristics

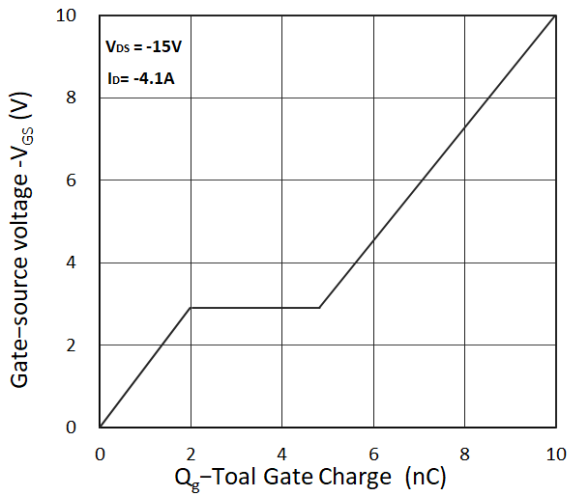
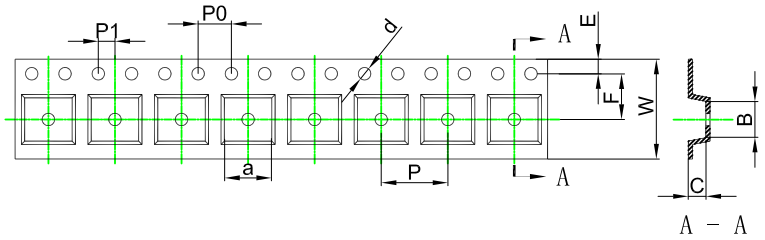


Figure 8. Gate Charge Characteristics

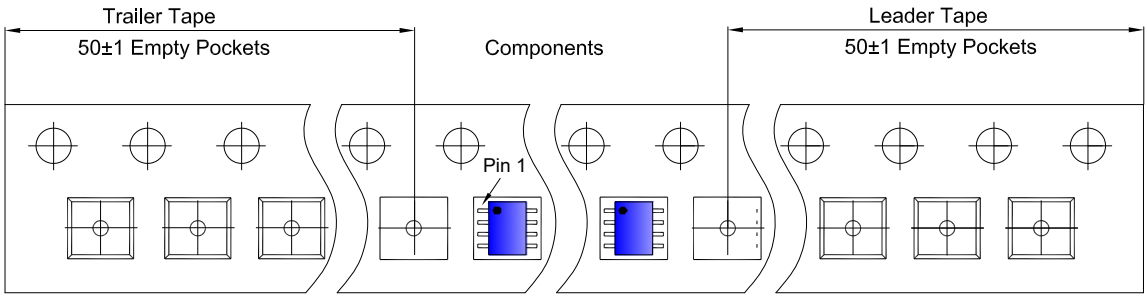
SOP8 Tape and Reel Information

Embossed Carrier Tape

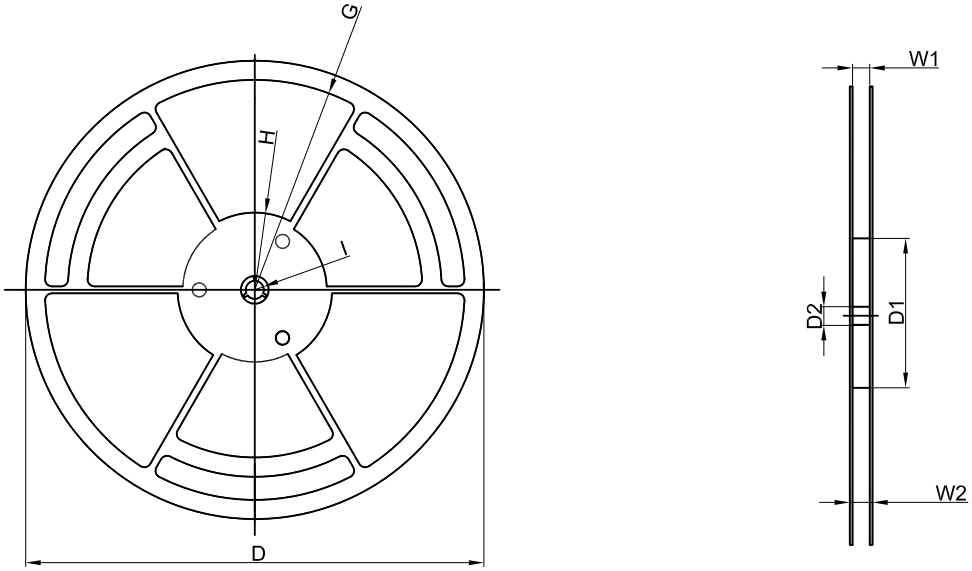


Dimensions are in millimeter										
Pkg type	a	B	C	d	E	F	P0	P	P1	W
SOP8	6.40	5.40	2.10	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

Tape Leader and Trailer

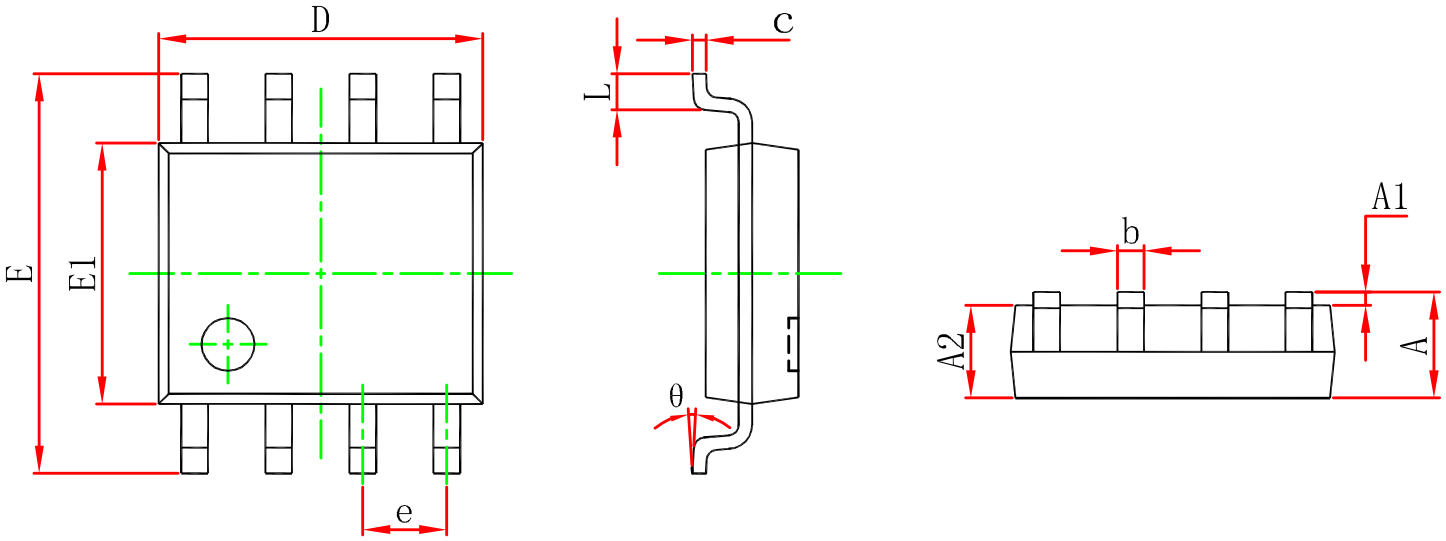


Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
13"Dia	Ø330.00	100.00	13.00	R151.00	R56.00	R6.50	12.40	17.60

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3,000 pcs	13 inch	6,000 pcs	360×360×65	48,000 pcs	565×380×390	



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	**Max**	**Min**	**Max**
A	1.450	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.700	5.100	0.185	0.201
e	1.270（BSC）		0.050（BSC）	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

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