



**Product Summary**

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	$I_D$
30V	8mΩ@10V	15A
	12mΩ@4.5V	

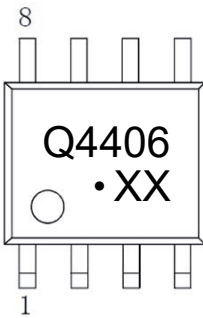
**Feature**

- High cell density trenching N-ch MOSFETs
- Super low gate charge
- Advanced high cell density Trench technology

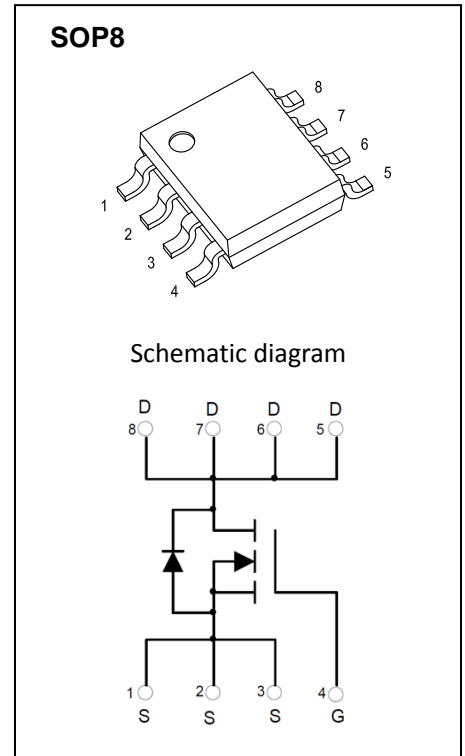
**Application**

- Battery protection applications
- Load switch

**MARKING:**



Q4406= Device code  
 Solid dot=Pin1 indicator  
 Solid dot = Green molding compound device,  
 if none, the normal device  
 XX=Date Code



**ABSOLUTE MAXIMUM RATINGS (T<sub>C</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V <sub>DS</sub>	30	V
Gate-Source Voltage	V <sub>GS</sub>	±20	V
Continuous Drain Current	I <sub>D</sub>	15	A
Pulsed Drain Current	I <sub>DM</sub>	60	A
Single Pulse Avalanche Energy	E <sub>AS</sub> <sup>(1)</sup>	105	mJ
Power Dissipation	P <sub>D</sub>	1.4	W
Thermal Resistance from Junction to Ambient	R <sub>θJA</sub>	89	°C/W
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-55~ +150	°C

(1).E<sub>AS</sub> condition: V<sub>DD</sub>=-50V,L=0.5mH, R<sub>G</sub>=25Ω, Starting T<sub>J</sub> = 25°C

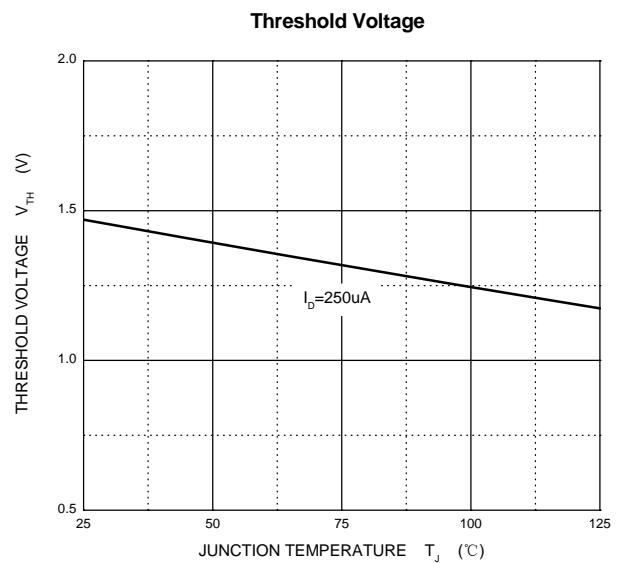
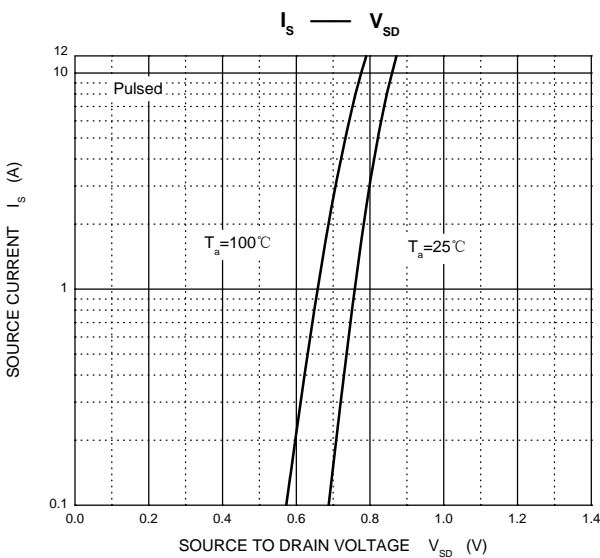
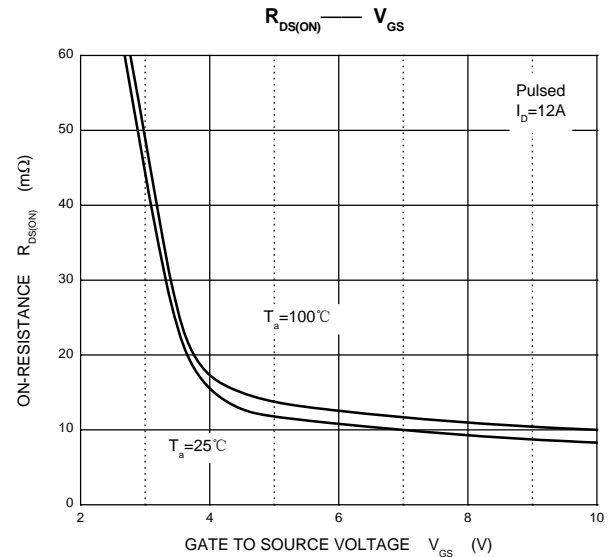
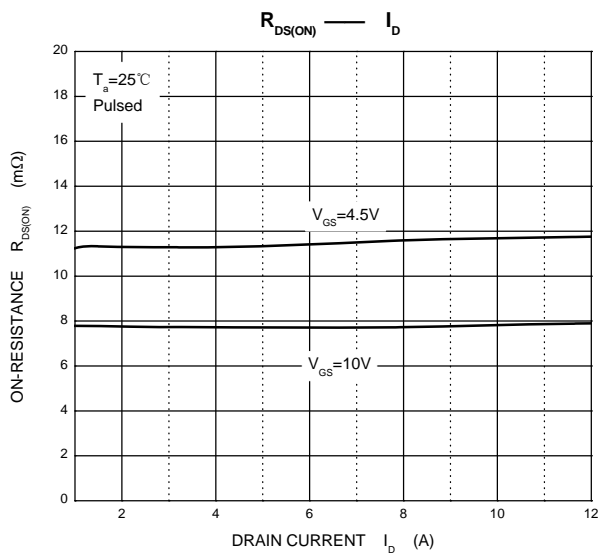
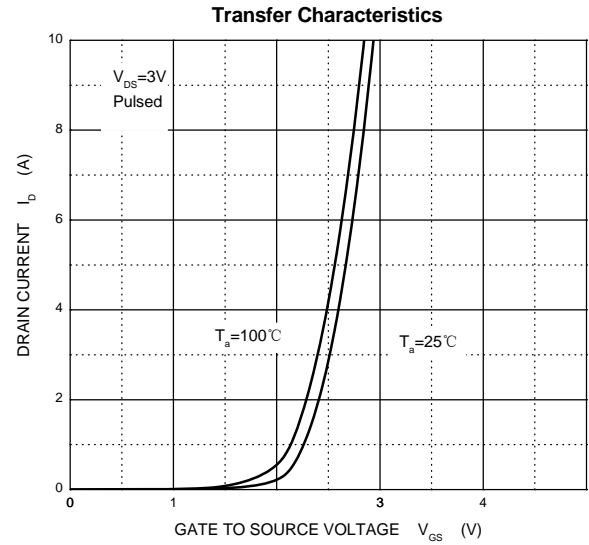
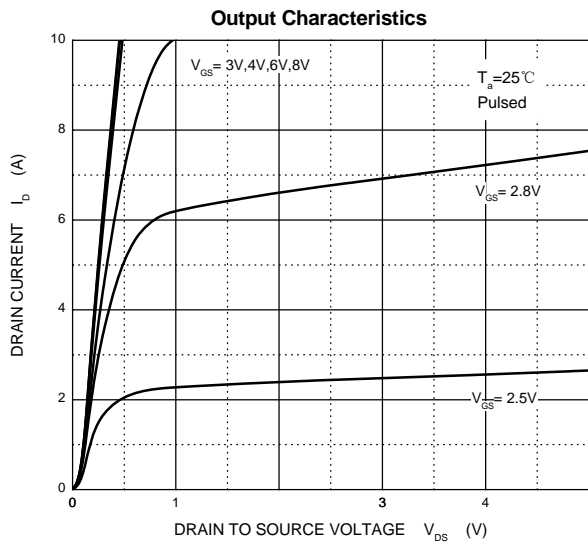
**MOSFET ELECTRICAL CHARACTERISTICS (T<sub>J</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
<b>Static Characteristics</b>						
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> = 0V, I <sub>D</sub> = 250μA	30			V
Zero gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> = 30V, V <sub>GS</sub> = 0V			-1	μA
Gate-body leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V			±100	nA
Gate threshold voltage <sup>1</sup>	V <sub>GS(th)</sub>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA	1.0	1.5	3.0	V
Drain-source on-resistance <sup>1</sup>	R <sub>DS(on)</sub>	V <sub>GS</sub> = 10V, I <sub>D</sub> = 12A		8	11	mΩ
		V <sub>GS</sub> = 4.5V, I <sub>D</sub> = 10A		12	16	
Forward tranconductance <sup>1</sup>	g <sub>FS</sub>	V <sub>DS</sub> = 5V, I <sub>D</sub> = 10A	10	14		S
<b>Dynamic characteristics<sup>2</sup></b>						
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 15V, V <sub>GS</sub> = 0V, f = 1MHz		1570		pF
Output capacitance	C <sub>oss</sub>			320		
Reverse transfer capacitance	C <sub>rss</sub>			190		
<b>Switching Characteristics<sup>2</sup></b>						
Total gate charge	Q <sub>g</sub>	V <sub>DS</sub> = 15V, V <sub>GS</sub> = 5V, I <sub>D</sub> = 10A		13.5		nC
Gate-source charge	Q <sub>gs</sub>			5.6		
Gate-drain charge	Q <sub>gd</sub>			3.7		
Turn-on delay time	t <sub>d(on)</sub>	V <sub>DD</sub> = 25V, V <sub>GS</sub> = 10V, R <sub>G</sub> = 63Ω, R <sub>L</sub> = 6.7Ω, I <sub>D</sub> = 1A		31		ns
Turn-on rise time	t <sub>r</sub>			22		
Turn-off delay time	t <sub>d(off)</sub>			105		
Turn-off fall time	t <sub>f</sub>			82		
<b>Diode Characteristics</b>						
Continuous Source Current	I <sub>S</sub>	V <sub>G</sub> = V <sub>D</sub> = 0V, Force Current			15	A
Pulsed Source Current	I <sub>SM</sub>				60	
Diode Forward Voltage <sup>1</sup>	V <sub>SD</sub>	V <sub>GS</sub> = 0V, I <sub>S</sub> = 10A, T <sub>J</sub> = 25°C		0.8	1.2	V

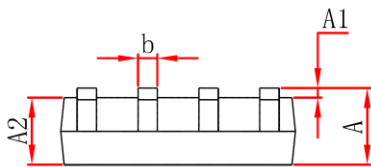
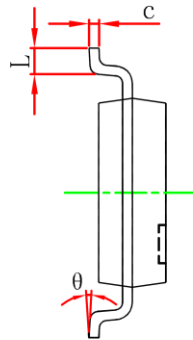
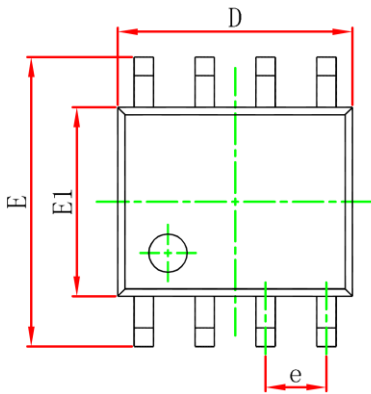
Notes:

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

**Typical Electrical and Thermal Characteristics**



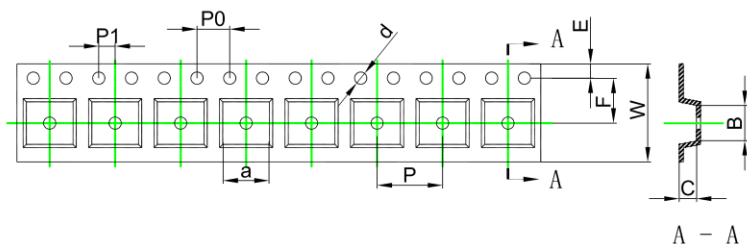
## SOP8 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.350	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	4.800	5.000	0.189	0.197
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
$\theta$	0°	8°	0°	8°

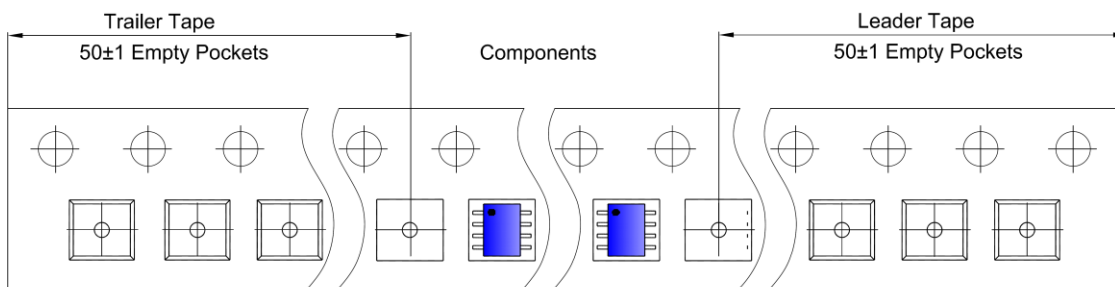
**SOP8 Tape and Reel**

**SOP8 Embossed Carrier Tape**

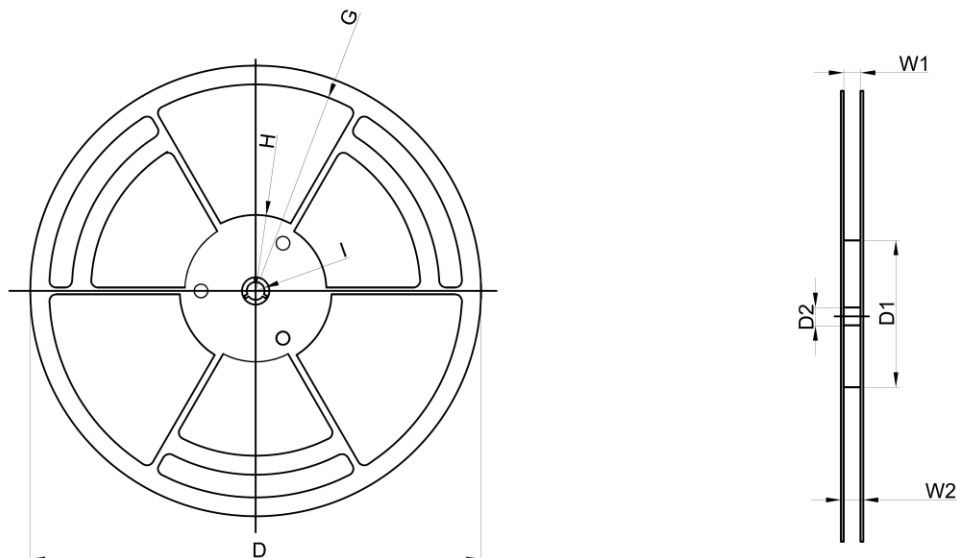


Dimensions are in millimeter										
Pkg type	a	B	C	d	E	F	P0	P	P1	W
SOP8	6.40	5.40	2.10	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

**SOP8 Tape Leader and Trailer**



**SOP8 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)
4,000 pcs	13 inch	8,000 pcs	360×360×65	64,000 pcs	565×380×390	

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)