

Features

- · Epoxy Meets UL 94 V-0 Flammability Rating
- · Moisture Sensitivity Level 1
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

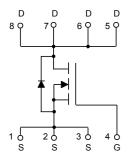
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 89°C/W Junction to Ambient

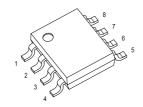
Parameter	Symbol	Rating	Unit
Drain -Source Voltage	V _{DS}	30	V
Gate -Source Voltage	V _{GS}	±20	V
Drain Current-Continuous	I _D	10	А
Single Pulsed Avalanche Energy ^(Note1)	E _{AS}	105	mJ
Pulsed Drain Current	I _{DM}	40	Α
Power Dissipation	P _D	1.4	W

Notes:

1.E_{AS} condition: V_{DD} =50V,L=0.5mH, R_{G} =25 Ω , Starting T_{J} = 25 $^{\circ}$ C

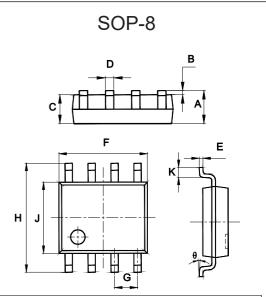
Internal Structure





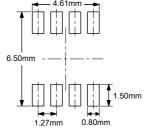
Marking: Q4406

N-Channel Enhancement Mode Field Effect Transistor



DIMENSIONS						
DIM	INCHES		MM		NOTE	
DIIVI	MIN	MAX	MIN	MAX	INOIL	
Α	0.053	0.069	1.35	1.75		
В	0.004	0.010	0.10	0.25		
С	0.053	0.061	1.35	1.55		
D	0.013	0.020	0.33	0.51		
E	0.007	0.010	0.17	0.25		
F	0.185	0.200	4.70	5.10		
G	0.050		1.270		TYP.	
Н	0.228	0.244	5.80	6.20		
J	0.150	0.157	3.80	4.00		
K	0.016	0.050	0.40	1.27		
θ	0°	8°	0°	8°		







ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Тур	Max	Unit	
Static Characteristics			<u>'</u>	1			
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} =0V, I _D =250μA	30			V	
Gate-Threshold Voltage ^(Note1)	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	1.0	1.5	3.0	V	
Gate-Body Leakage Current	I _{GSS}	V _{GS} =± 20V, V _{DS} =0V			±100	nA	
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, V _{GS} =0V			1	μA	
Drain-Source On-Resistance ^(Note1)	R _{DS(on)}	V _{GS} =10V, I _D =12A		7.6	12	mΩ	
		V _{GS} =4.5V, I _D =10A		11	16		
Forward Transconductance	g FS	V _{DS} =5V, I _D =10A	15			S	
Dynamic Characteristics(Note2)			·	1			
Input Capacitance	C _{iss}			1550		pF	
Output Capacitance	C _{oss}	V _{DS} =15V,V _{GS} =0V, f=1MHz		300			
Reverse Transfer Capacitance	C _{rss}			180			
Switching Characteristics(Note:	2)		1				
Turn-On Delay Time	t _{d(on)}			30		ns	
Turn-On Rise Time	t _r	V_{DD} =25V, V_{GS} =10V, I_{D} =1A , R_{GEN} =6 Ω , R_{L} =6.7 Ω		20			
Turn-Off Delay Time	t _{d(off)}	1 (GEN - 022,1 \(\) 0.7 \(\)2		100			
Turn-Off Fall Time	t _f			80			
Total Gate Charge	Q_g			13			
Gate-Source Charge	Q _{gs}	V _{DS} =15V,I _D =10A,V _{GS} =5.0V		5.5		nC	
Gate-Drain Charge	Q_{gd}			3.5			
Source-Drain Diode character	istics	I	<u> </u>	I	<u> </u>		
Drain-Source Diode Forward Current	Is				10	Α	
Diode Forward voltage ^(Note1)	V _{SD}	V _{GS} =0V,I _S =10A			1.2	V	
Pulsed drain-source diode forward current	I _{SM}				40	Α	

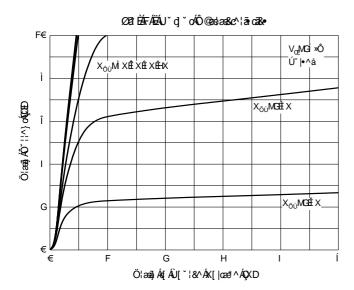
Notes:

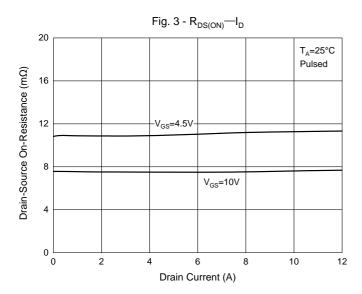
^{1.}Pulse Test: Pulse Width ≤ 300µs, Duty Cycle ≤ 2%.

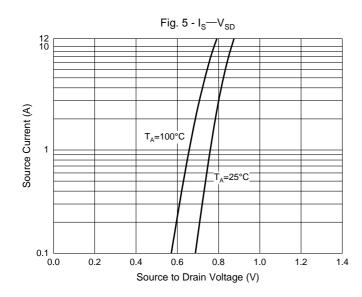
^{2.} Guaranteed by design, not subject to production testing.

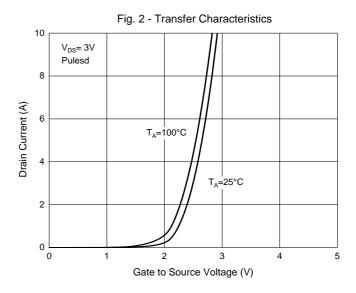


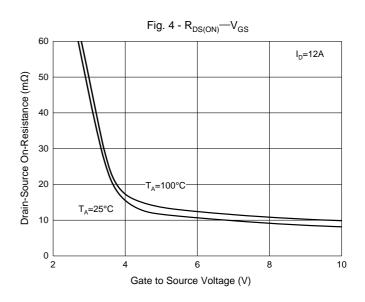
Curve Characteristics

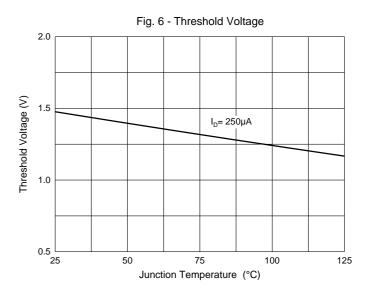














Ordering Information

Device	Packing	
Part Number-TP	Tape&Reel:4Kpcs/Reel	

Note: Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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