

Features

- Trench Power LV MOSFET Technology
- High Speed Switching
- High Density Cell Design for Low $R_{DS(on)}$
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 3
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

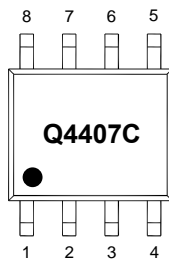
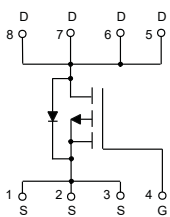
Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 39°C/W Junction to Ambient

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	-12	A
Pulsed Drain Current (Note 2)	I_{DM}	-48	A
Avalanche Energy (Note 3)	E_{AS}	64	mJ
Total Power Dissipation	P_D	3.2	W

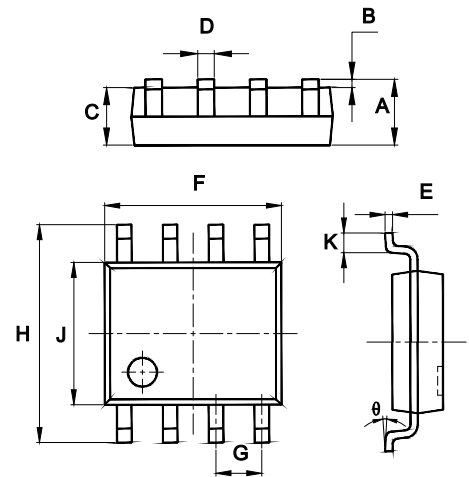
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 2. Pulse Test: Pulse Width $\leq 300\mu s$, Duty cycle $\leq 2\%$.
 3. $V_{DD} = -25V$, $V_G = -10V$, $R_G = 25\Omega$, $L = 0.5mH$, $I_{AS} = -16A$.

Internal Structure and Marking Code



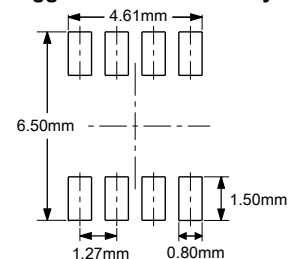
P-CHANNEL MOSFET

SOP-8



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.053	0.069	1.35	1.75	
B	0.004	0.010	0.10	0.25	
C	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.
H	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°	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-30			V
Gate-Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-30V, V_{GS}=0V$			-1	μA
Gate-Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.0	-1.4	-2.0	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-12A$		9.0	16	m Ω
		$V_{GS}=-6V, I_D=-10A$		11.3	20	
		$V_{GS}=-4.5V, I_D=-10A$		13.0	22	
Diode Characteristics						
Continuous Body Diode Current	I_S				-12	A
Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=-10A$			-1.2	V
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$		1790		pF
Output Capacitance	C_{oss}			240		
Reverse Transfer Capacitance	C_{rss}			230		
Total Gate Charge	Q_g	$V_{DS}=-15V, V_{GS}=-10V, I_D=-12A$		37		nC
Gate-Source Charge	Q_{gs}			6		
Gate-Drain Charge	Q_{gd}			8		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=-10V, V_{DD}=-15V, I_D=-12A$ $R_{GEN}=3\Omega$		9		ns
Turn-On Rise Time	t_r			56		
Turn-Off Delay Time	$t_{d(off)}$			45		
Turn-Off Fall Time	t_f			78		

Curve Characteristics

Fig. 1 - Typical Output Characteristics

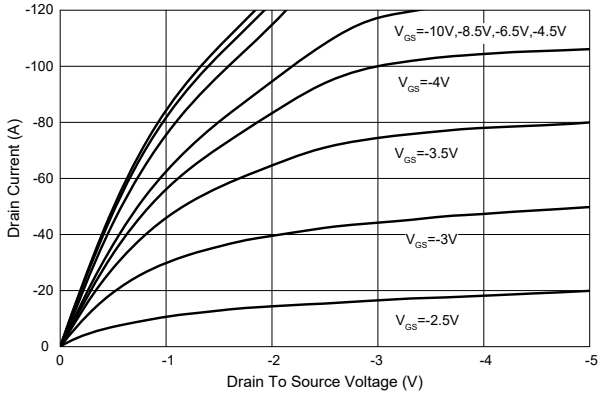


Fig. 2 - Transfer Characteristics

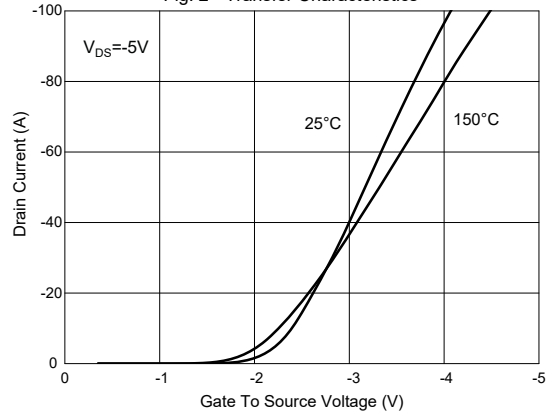


Fig. 3 - $R_{DS(ON)} - I_D$

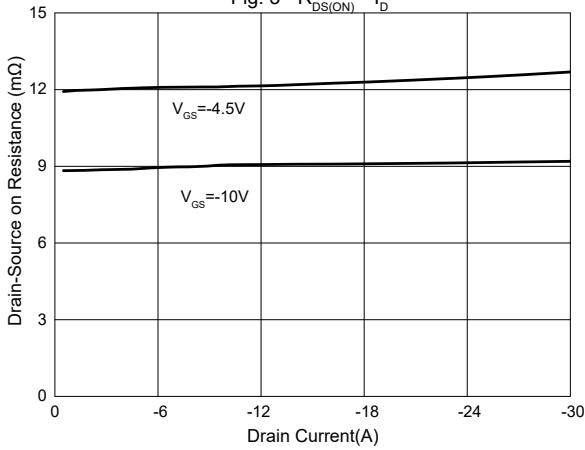


Fig. 4 - Normalized On Resistance Characteristics

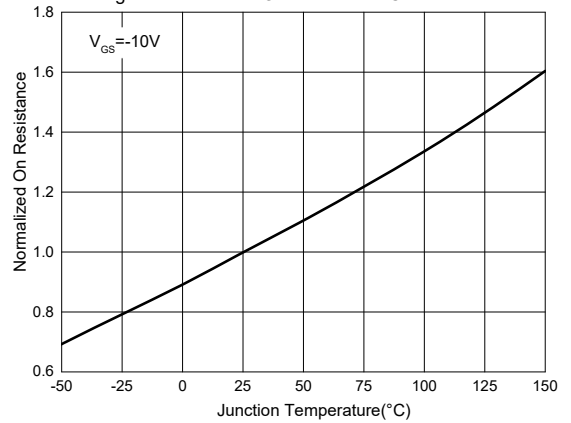


Fig. 5 - Capacitance Characteristics

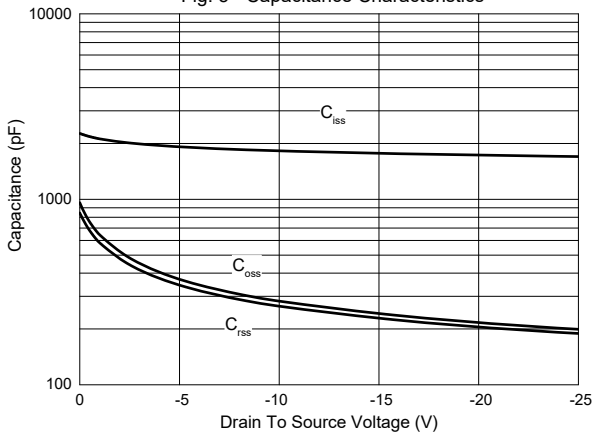
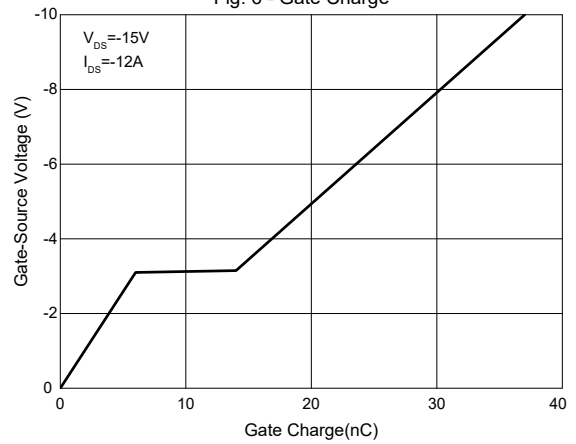
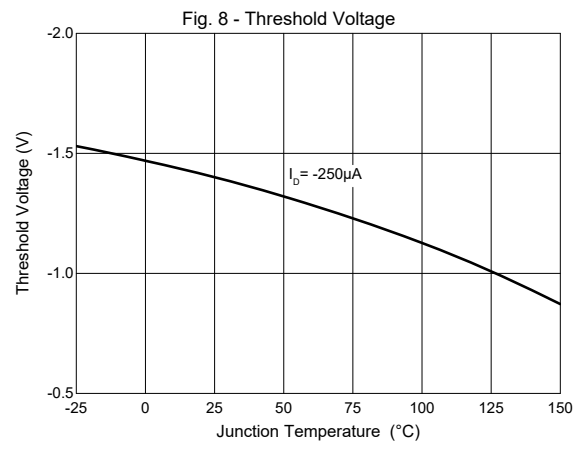
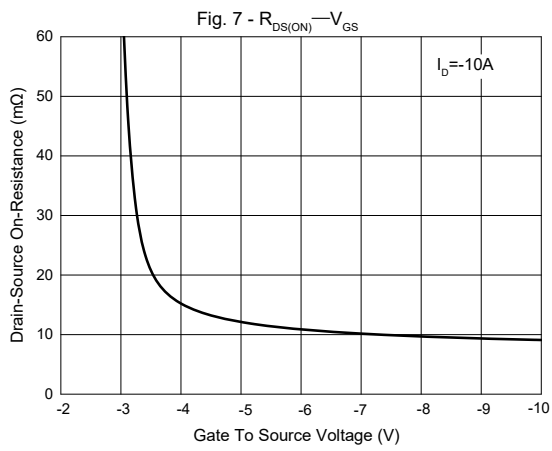


Fig. 6 - Gate Charge



Curve Characteristics



Ordering Information

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

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