Features

- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Halogen Free.“Green” Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Dual N&P-Channel MOSFET

Maximum Ratings

- Operating Junction Temperature Range : -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 62.5°C/W Junction to Ambient

Parameter		Symbol	Rating	Unit
Total Power Dissipation		P_D	2.0	W
N-Channel MOSFET				
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Volltage		V_{GS}	±20	V
Continuous Drain Current(Note 2)	T_A=25°C	I_D	6.5	A
	T_A=70°C		5.4	A
Pulsed Drain Current (Note 3)		I_{DM}	26	A
P-Channel MOSFET				
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Volltage		V_{GS}	±20	V
Continuous Drain Current(Note 2)	T_A=25°C	I_D	-5.0	A
	T_A=70°C		-4.1	A
Pulsed Drain Current (Note 3)		I_{DM}	-20	A

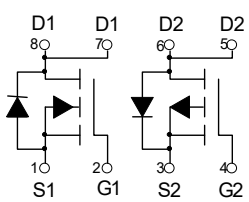
Note:

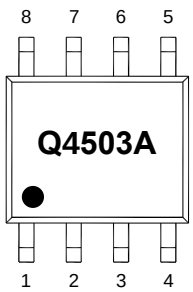
1.Halogen free "Green” products are defined as those which conta <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

2.These Tests Are Performed With Infinite Heat Sink.

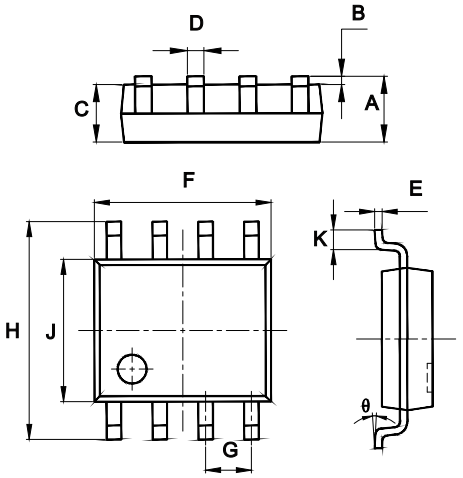
3.Pulse Width By Max. Junction Temperature.

Internal Structure and Marking Code



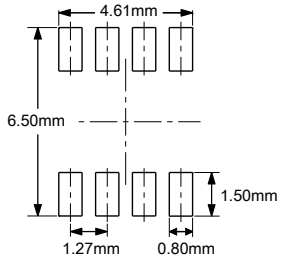


SOP-8



DIMENSIONS					
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



N-Channel MOSFET 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=250μA	30			V
Gate-Source 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	1.2	1.6	2.4	V
Drain-Source On-Resistance(Note 4)	$R_{DS(on)}$	V_{GS}=10V, I_D=5A			30	mΩ
		V_{GS}=4.5V, I_D=5A			40	
Diode Forward Voltage(Note 4)	V_{SD}	V_{GS}=0V, I_S=5A			1.2	V
Forward Tranconductance	g_{FS}	V_{DS}=5V, I_D=5A	4			S
Dynamic Characteristics						
Input Capacitance(Note 5)	C_{iss}	V_{DS}=15V,V_{GS}=0V,f=1MHz		255		pF
Output Capacitance(Note 5)	C_{oss}			45		
Reverse Transfer Capacitance(Note 5)	C_{rss}			35		
Total Gate Charge(Note 4)	Q_g	V_{DD}=15V,V_{GS}=10V,I_D=5A		5.2		nC
Gate-Source Charge(Note 5)	Q_{gs}			0.85		
Gate-Drain Charge(Note 5)	Q_{gd}			1.3		
Turn-On Delay Time(Note 4)	$t_{d(on)}$	V_{DD} =15V, V_{GS}=10V R_L=2.5Ω, R_G=3.3Ω		4.5		ns
Turn-On Rise Time(Note 5)	t_r			2.5		
Turn-Off Delay Time(Note 5)	$t_{d(off)}$			14.5		
Turn-Off Fall Time(Note 5)	t_f			3.5		

P-Channel 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=-250μA	-30			V
Gate-Source 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	-1.6	-2.5	V
Drain-Source On-Resistance(Note 4)	$R_{DS(on)}$	V_{GS}=-10V, I_D=-4A			60	mΩ
		V_{GS}=-4.5V, I_D=-4A			90	
Diode Forward Voltage(Note 4)	V_{SD}	V_{GS}=0V, I_S=-5A			-1.2	V
Forward Tranconductance	g_{FS}	V_{DS}=-5V, I_D=-5A	4			S
Dynamic Characteristics						
Input Capacitance(Note 5)	C_{iss}	V_{DS}=-15V,V_{GS}=0V,f=1MHz		520		pF
Output Capacitance(Note 5)	C_{oss}			100		
Reverse Transfer Capacitance(Note 5)	C_{rss}			65		
Total Gate Charge(Note 4)	Q_g	V_{DD}=-15V,V_{GS}=-10V,I_D=-5A		9.2		nC
Gate-Source Charge(Note 5)	Q_{gs}			1.6		
Gate-Drain Charge(Note 5)	Q_{gd}			2.2		
Turn-On Delay Time(Note 4)	$t_{d(on)}$	V_{DD} =-15V, VGS=-10V RL=2.3Ω, RG=6Ω		7.5		ns
Turn-On Rise Time(Note 5)	t_r			5.5		
Turn-Off Delay Time(Note 5)	$t_{d(off)}$			19		
Turn-Off Fall Time(Note 5)	t_f			7		

Note 4. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤ 2%.

5. Guaranteed by Design, Not Subject to Production Testing.

N-Channel MOSFET Curve Characteristics

Fig. 1 - Output Characteristics

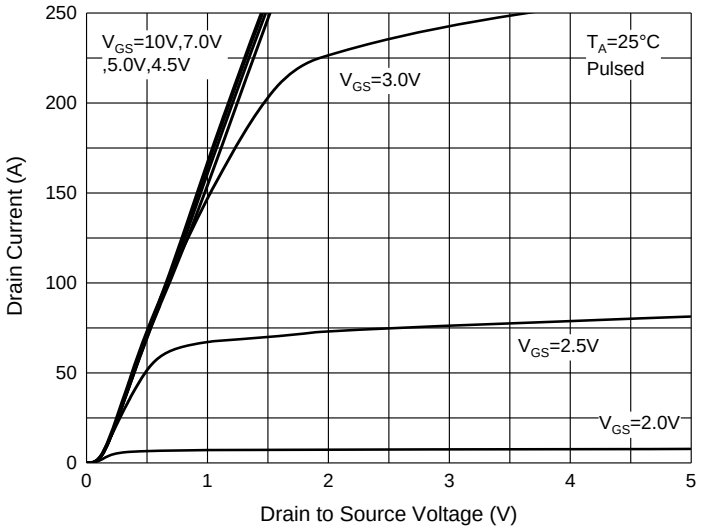


Fig. 2 - Transfer Characteristics

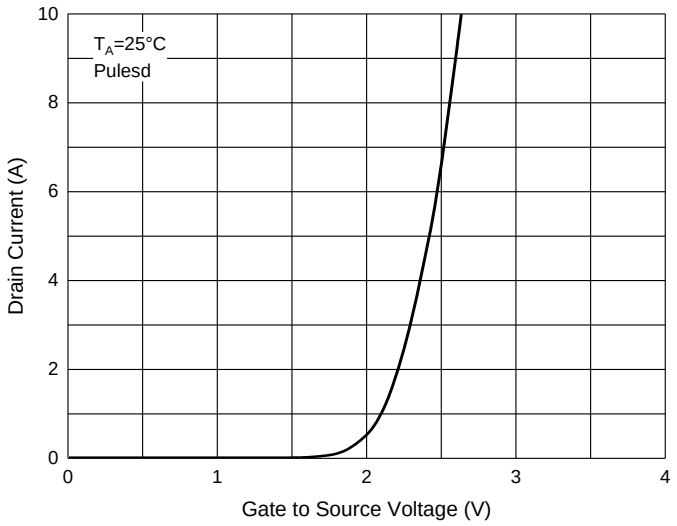


Fig. 3 - $R_{DS(ON)}$—I_D

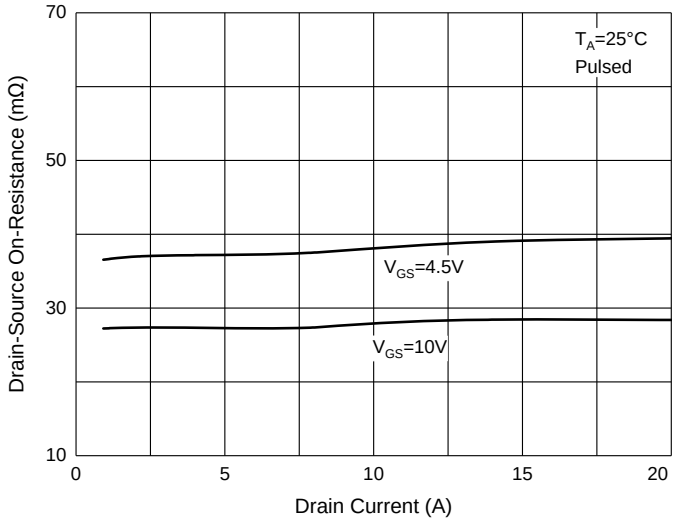


Fig. 4 - $R_{DS(ON)}$—V_{GS}

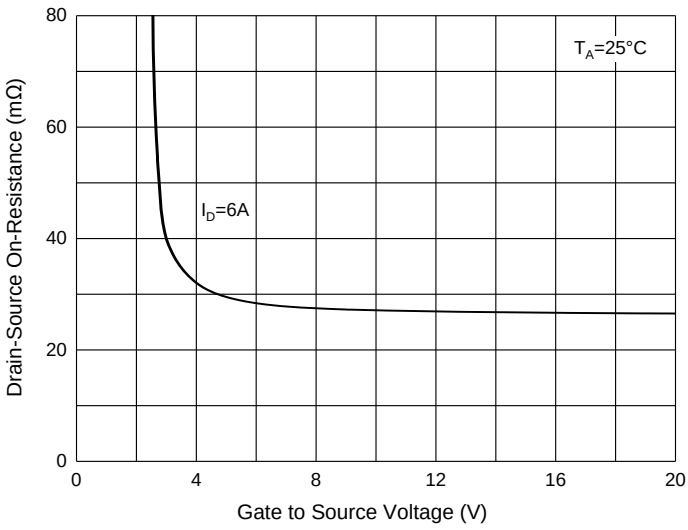
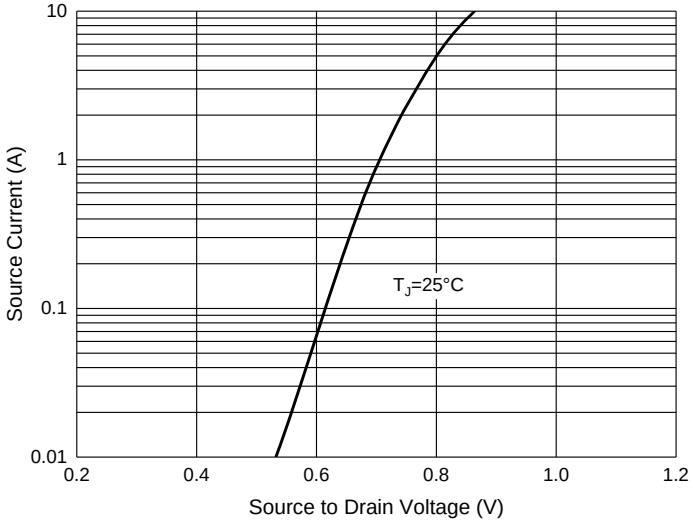


Fig. 5 - I_S—V_{SD}



P-Channel MOSFET Curve Characteristics

Fig. 1 - Output Characteristics

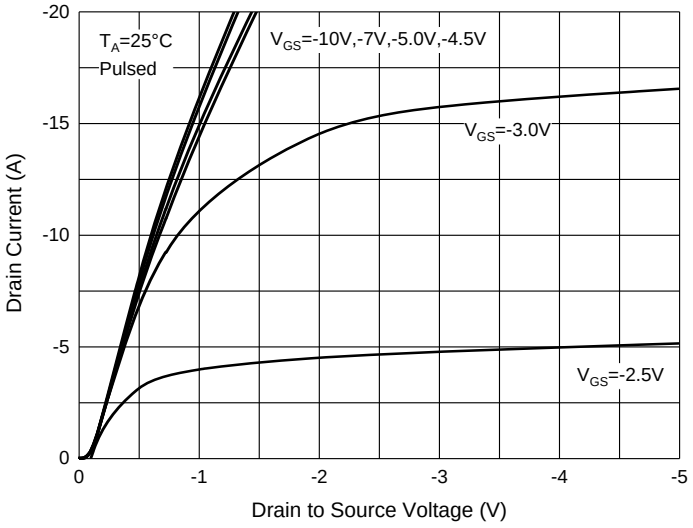


Fig. 2 - Transfer Characteristics

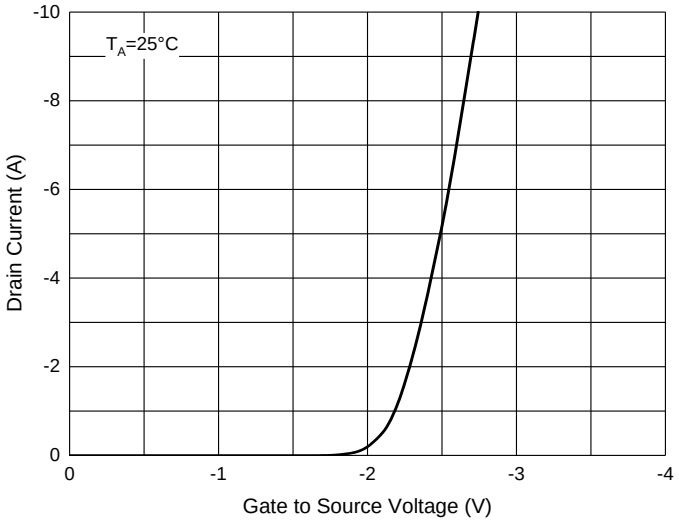


Fig. 3 - $R_{DS(ON)}$—I_D

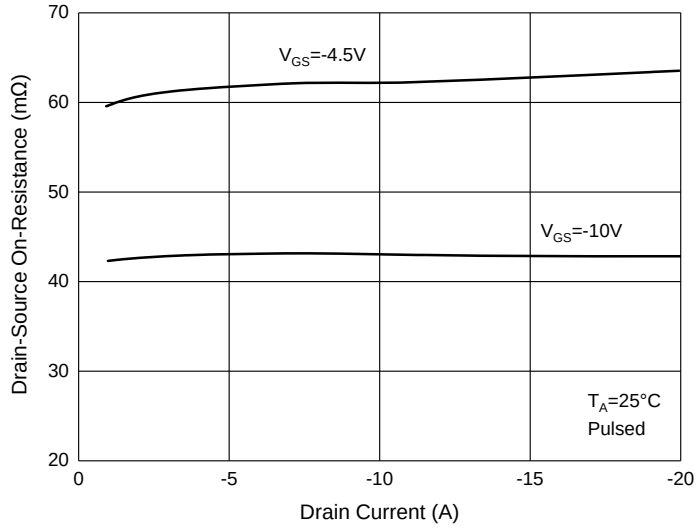


Fig. 4 - $R_{DS(ON)}$—V_{GS}

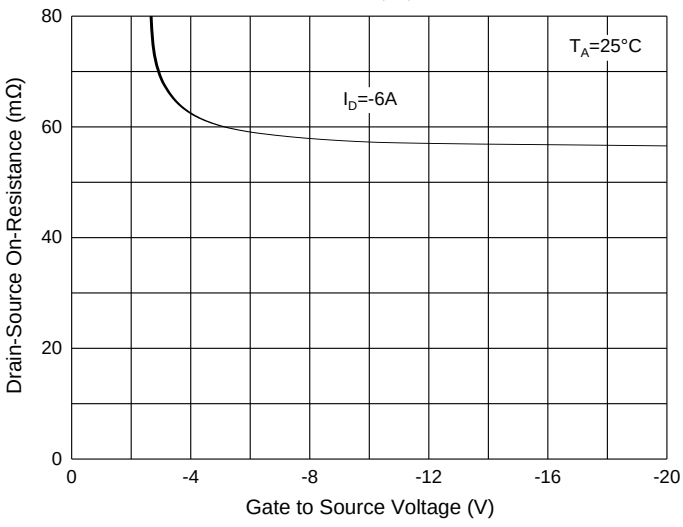
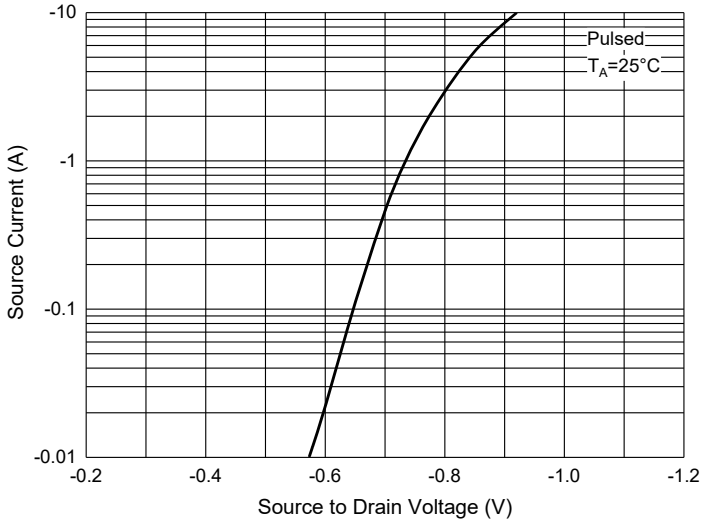


Fig. 5 - I_S—V_{SD}



Ordering Information

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