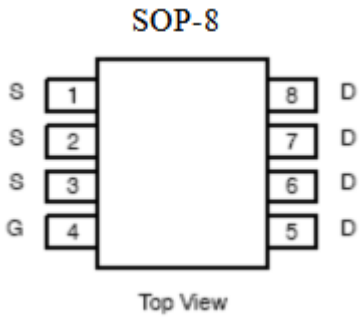
1. Features

- $R_{DS(on)}$=19mΩ(typ)@ V_{GS}=10 V
- Super low gate charge
- Green device available
- Excellent Cdv/dt effect decline
- Advanced high cell density trench technology

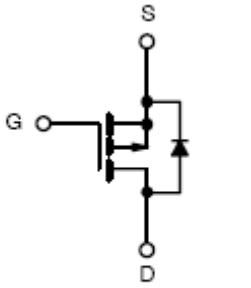
2.Description

The KPE4703A is the high cell density trenched P-ch MOSFET's, which provide excellent RDSON and gate charge for most of the synchronous buck converter applications. The KPE4703A meet the RoHs and Green Product requirement.

3.Symbol



Top View



P-Channel MOSFET

4.Absolute maximum ratings

(T_A=25°C,unless otherwise noted)

Parameter		Symbol	Rating	Units
Drain-source voltage		V_{DSS}	-30	V
Gate-source voltage		V_{GS}	±20	V
Continuous drain current V_{GS} @-10V[1]	T_A=25ºC	I_D	-8.0	A
	T_A=70ºC		-6.4	
Pulsed drain current[2]		I_{DM}	-50	A
Single pulse avalanche energy[3]		EAS	96.8	mJ
Avalanche current		I_{AS}	-38	A
Total power dissipation[4]	T_A=25ºC	P_D	3.1	W
	T_A=70ºC		2	W
Storage Temperature Range		T_{STG}	-55 to150	ºC
Operating Junction Temperature Range		T_J	-55 to150	ºC

5. Thermal characteristics

Parameter	Symbol	Typ	Max	Units
Thermal resistance, junction-ambient[1]	$R_{\theta JA}$	-	75	ºC/W
Thermal resistance, junction-ambient (t≦ 10s)		-	40	
Thermal resistance, Junction-case[1]	$R_{\theta JC}$	-	24	

6.Electrical characteristics

(T_J=25°C,unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Drain-Source breakdown voltage	BV_{DSS}	V_{GS}=0V, I_D=-250μA	-30	-	-	V
BV_{DSS} Temperature coefficient	$\triangle BV_{DSS}/\triangle T_J$	Reference to 25 ºC, I_D=-1mA	-	-0.021	-	V/ ºC
Static drain-source on- resistance[2]	$R_{DS(on)}$	V_{GS}=-10V,I_D=-6A	-	19	24	mΩ
		V_{GS}=-4.5V,I_D=-4A	-	27	32	
Gate threshold voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=-250μA				

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$_{GS(th)}$G

6. Test circuits and waveforms

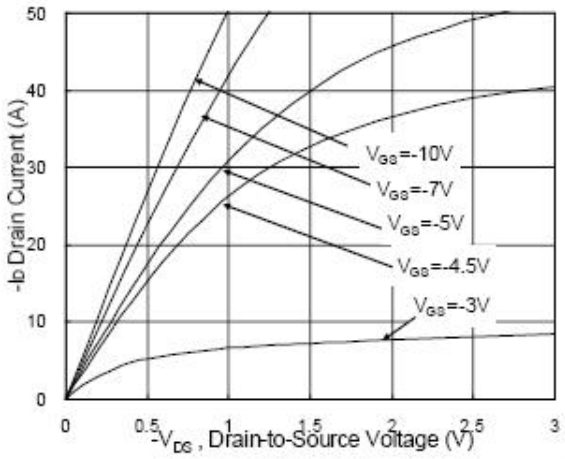

Fig.1 Typical Output Characteristics

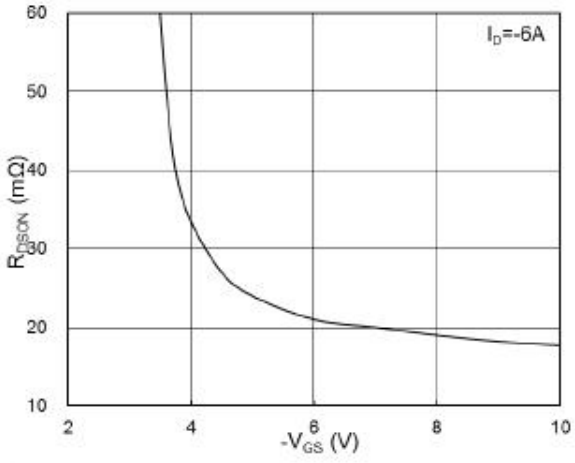

Fig.2 On-Resistance v.s Gate-Source

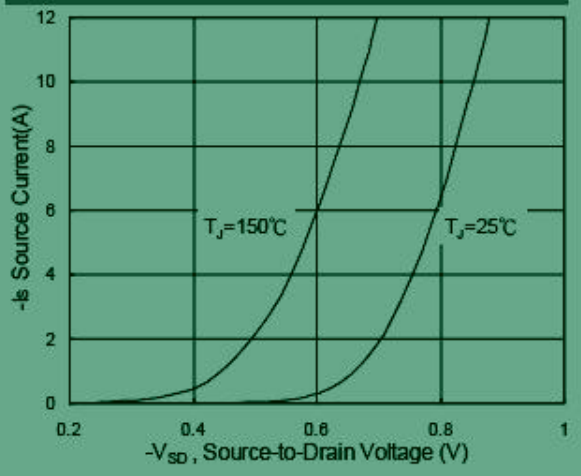

Fig.3 Forward Characteristics of Reverse

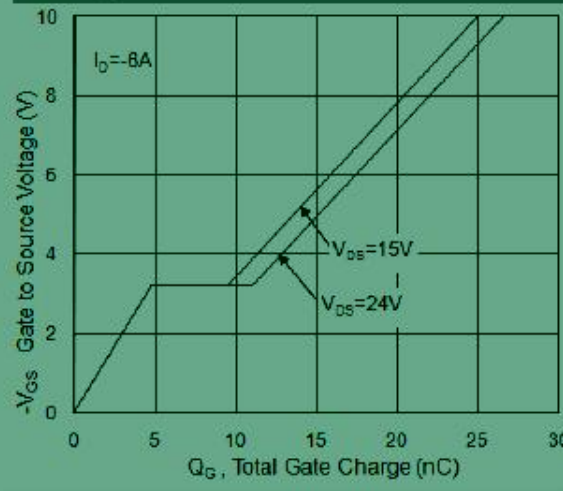

Fig.4 Gate-Charge Characteristics

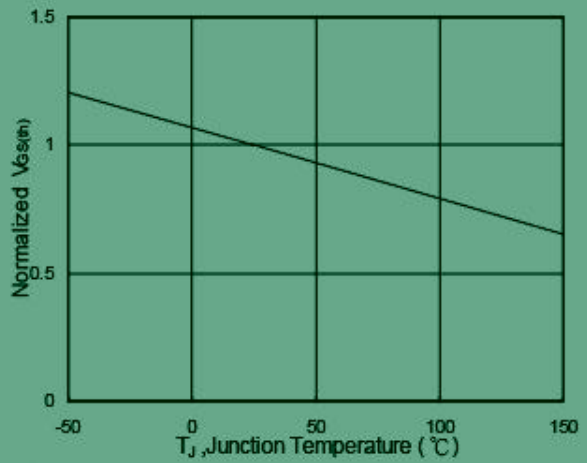

Fig.5 Normalized $V_{GS(th)}$ vs. T_J

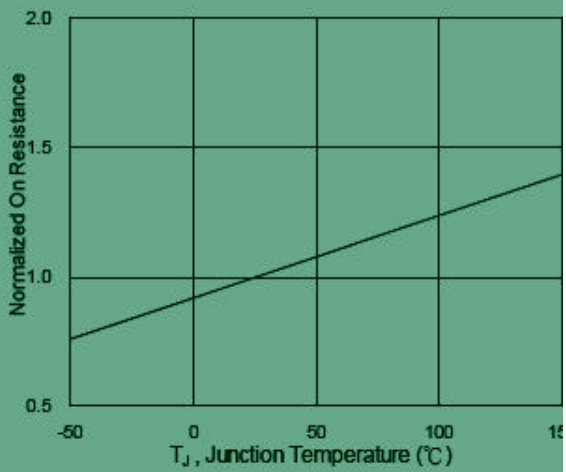

Fig.6 Normalized R_{DSON} vs. T_J

-8A，-30V
P-CHANNEL MOSFET