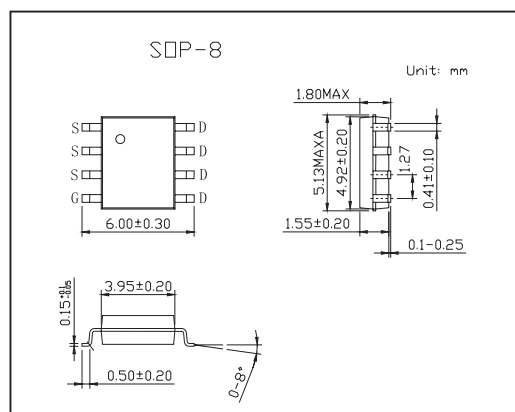
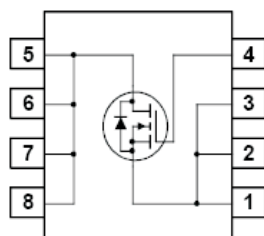


N-Channel UltraFET Trench MOSFET

KDS2572

■ Features

- $R_{DS(ON)} = 0.040\ \Omega$ (Typ.), $V_{GS} = 10V$
- $Q_{g(TOT)} = 29nC$ (Typ.), $V_{GS} = 10V$
- Low QRR Body Diode
- Maximized efficiency at high frequencies
- UIS Rated



■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	V_{DS}	150	V
Gate to Source Voltage	V_{GS}	± 20	V
Drain Current Continuous ($T_c = 25^\circ C$) *1	I_D	4.9	A
Drain Current Continuous ($T_c = 100^\circ C$) *1		3.1	A
Power dissipation	P_D	2.5	W
Derate above $25^\circ C$		20	mW/ $^\circ C$
Operating and Storage Temperature	T_J, T_{STG}	-55 to 150	$^\circ C$
Thermal Resistance Junction to Case	$R_{\theta JC}$	25	$^\circ C/W$
Thermal Resistance Junction to Case at 10 seconds *2	$R_{\theta JA}$	50	$^\circ C/W$
Thermal Resistance Junction to Case at steady state *2	$R_{\theta JA}$	85	$^\circ C/W$

*1 $V_{GS} = 10V$, $R_{\theta JA} = 50^\circ C/W$

*2 $R_{\theta JA}$ is measured with 1.0in² copper on FR-4 board

KDS2572

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain to Source Breakdown Voltage	BVDSS	Id = 250mA, VGS = 0V	150			V
Zero Gate Voltage Drain Current	IDSS	VDS = 120V, VGS = 0V			1	μ A
		VDS = 120V, VGS = 0V, Tc = 150°C			250	
Gate to Source Leakage Current	IGSS	VGS = ±20V			±100	nA
Gate to Source Threshold Voltage	VGS(TH)	VGS = VDS, Id = 250mA	2		4	V
Drain to Source On Resistance	rDS(ON)	Id = 4.9A, VGS = 10V		0.040	0.047	Ω
Drain to Source On Resistance	rDS(ON)	Id = 4.9A, VGS = 6V		0.044	0.053	Ω
Input Capacitance	Ciss	VDS = 25V, VGS = 0V, f = 1MHz		2050		pF
Output Capacitance	COSS			220		pF
Reverse Transfer Capacitance	CRSS			48		pF
Total Gate Charge at 10V	Qg(TOT)	VGS=0V to 10V, VDD=75V, Id=4.9A, Ig=1.0mA		29	38	nC
Threshold Gate Charge	Qg(TH)	VGS=0V to 2V, VDD=75V, Id=4.9A, Ig=1.0mA		4	6	nC
Gate to Source Gate Charge	Qgs	VDD = 75V, Id = 4.9A, Ig = 1.0mA		8		nC
Gate to Drain "Miller" Charge	Qgd			6		nC
Gate Charge Threshold to Plateau	Qgs2			4		nC
Turn-On Time	tON	VDD = 75V, Id = 4.9A, VGS = 10V, RG = 10 Ω			27	ns
Turn-On Delay Time	td(ON)			14		ns
Rise Time	tr			4		ns
Turn-Off Delay Time	td(OFF)			44		ns
Fall Time	tf			22		ns
Turn-Off Time	tOFF				100	ns
Source to Drain Diode Voltage	VSD	ISD = 4.9A			1.25	V
		ISD = 3.1A			1.0	V
Reverse Recovery Time	trr	ISD = 4.9A, diSD/dt = 100A/μ s			72	ns
Reverse Recovered Charge	QRR	ISD = 4.9, diSD/dt = 100A/μ s			158	nC