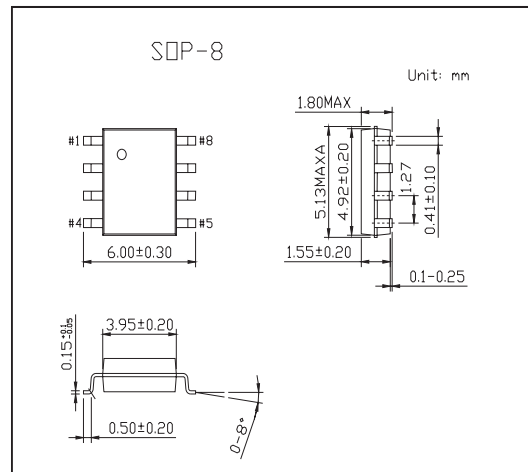
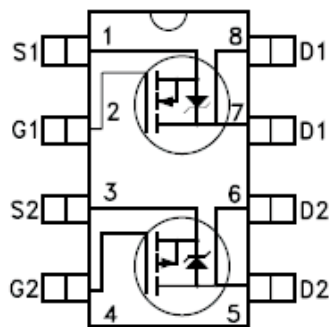


STripFET™ Power MOSFET

KTS3C3F30L

■ Features

- Typical $R_{DS(on)}$ (N-Channel)=50m Ω
- Typical $R_{DS(on)}$ (N-Channel)=140m Ω
- Standard outline for easy automated surface mount assembly
- Low threshold drive



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

Parameter	Symbol	N-Channel	P-Channel	Unit
Drain-Source Voltage ($V_{GS} = 0$)	V_{DS}	30		V
Drain-gate Voltage ($R_{GS} = 20\text{ k}\Omega$)	V_{DGR}	30		
Gate-to-Source Voltage	V_{GS}	± 16		V
Continuous Drain Current, at $T_c = 25^\circ\text{C}$	I_D	3.5	2.7	A
Continuous Drain Current, at $T_c = 100^\circ\text{C}$	I_D	2.2	1.7	
Pulsed Drain Current	I_{DM}	14	11	
Total Dissipation at $T_c = 25^\circ\text{C}$ Single Operation	P_{TOT}	1.6		W
Total Dissipation at $T_c = 25^\circ\text{C}$ Dual Operation		2		
Junction and Storage Temperature Range	T_J, T_{STG}	-65 to 150		$^\circ\text{C}$
Thermal Resistance Junction-ambient Max (Single Operating) (Dual Operating)	$R_{thj-amb}^*$	62.5 78		$^\circ\text{C}/\text{W}$
Maximum Lead Temperature For Soldering Purpose	T_l	300		$^\circ\text{C}$

* Mounted on 0.5 in² pad of 2oz. copper.

KTS3C3F30L

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit	
Drain-source Breakdown Voltage	V _{(BR)DSS}	I _D = 250 μA, V _{GS} = 0	N-Ch	30		V	
		I _D = 250 μA, V _{GS} = 0	P-Ch	30		V	
Zero Gate Voltage Drain Current (V _{GS} = 0)	I _{DSS}	V _{DS} = Max Rating V _{DS} = Max Rating, T _C = 125 °C	N-Ch		1	μA	
			P-Ch		1	μA	
			N-Ch		10	μA	
			P-Ch		10	μA	
Gate-body Leakage Current (V _{DS} = 0)	I _{GSS}	V _{GS} = ±16V	N-Ch		±10	μA	
			P-Ch		±10	μA	
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	N-Ch	1		V	
		V _{DS} = V _{GS} , I _D = 250 μA	P-Ch	1		V	
Static Drain-source On Resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 1.75A	N-Ch		50	65	mΩ
		V _{GS} = 10V, I _D = 1.5A	P-Ch		140	165	mΩ
		V _{GS} = 4.5V, I _D = 1.75A	N-Ch		60	90	mΩ
		V _{GS} = 4.5V, I _D = 1.5A	P-Ch		160	200	mΩ
Forward Transconductance	g _{fs}	V _{DS} = 15 V I _D = 1.75 A	N-Ch		5.5	S	
		V _{DS} = 15 V I _D = 1.5 A	P-Ch		4	S	
Input Capacitance	C _{iss}	N-Channel	N-Ch		320	pF	
			P-Ch		420	pF	
Output Capacitance	C _{oss}	V _{DS} = 25V, f = 1 MHz, V _{GS} = 0	N-Ch		90	pF	
		P-Channel	P-Ch		95	pF	
Reverse Transfer Capacitance	C _{rss}	V _{DS} = 25V, f = 1 MHz, V _{GS} = 0	N-Ch		40	pF	
			P-Ch		30	pF	
Turn-on Delay Time	t _{d(on)}	N-Channel V _{DD} =15V, I _D =1.75A, R _G =4.7 Ω, V _{GS} = 4.5V	N-Ch		27	ns	
			P-Ch		14.5	ns	
Rise Time	t _r	P-Channel V _{DD} =15V, I _D =1.5A, R _G =4.7 Ω, V _{GS} =4.5V	N-Ch		40	ns	
			P-Ch		37	ns	
Total Gate Charge	Q _g	N-Channel V _{DD} =24V, I _D =3.5A, V _{GS} = 4.5V	N-Ch		8.5	12	nC
			P-Ch		4.8	7	nC
Gate-Source Charge	Q _{gs}	P-Channel	N-Ch		2	nC	
			P-Ch		1.7	nC	
Gate-Drain Charge	Q _{gd}	V _{DD} = 24V, I _D = 3A, V _{GS} = 4.5V	N-Ch		4	nC	
			P-Ch		2	nC	
Turn-off Delay Time	t _{d(off)}	N-Channel V _{DD} = 15V, I _D = 1.75A, R _G = 4.7 Ω, V _{GS} = 4.5V	N-Ch		30	ns	
			P-Ch		90	ns	
Fall Time	t _f	P-Channel V _{DD} = 15V, I _D = 1.5A, R _G = 4.7 Ω, V _{GS} = 4.5V	N-Ch		20	ns	
			P-Ch		23	ns	
Source-drain Current	I _{SD}		N-Ch		3.5	A	
			P-Ch		3	A	
Source-drain Current (pulsed) *1	I _{SDM}		N-Ch		14	A	
			P-Ch		12	A	

KTS3C3F30L

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Forward On Voltage *2	V _{SD}	I _{SD} = 3.5A, V _{GS} = 0	N-Ch		1.2	V
		I _{SD} = 3A, V _{GS} = 0	P-Ch		1.2	V
Reverse Recovery Time	t _{rr}	N-Channel I _{SD} = 3.5A, di/dt = 100A/μs,	N-Ch		28	ns
			P-Ch		35	ns
Reverse Recovery Charge	Q _{rr}	V _{DD} = 15V, T _j = 150°C P-Channel	N-Ch		18	nC
			P-Ch		25	nC
Reverse Recovery Curren	I _{RRM}	I _{SD} = 3A, di/dt = 100A/μs, V _{DD} = 15V, T _j = 150°C	N-Ch		1.3	A
			P-Ch		1.5	A

*1 Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %.

*2 Pulse width limited by safe operating area