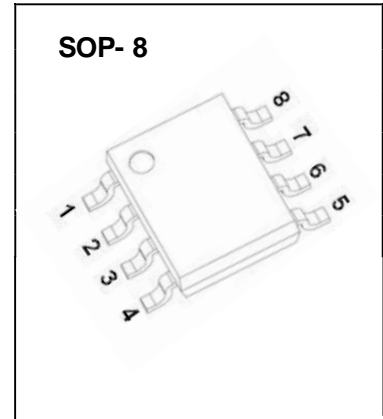


P-Channel Enhancement Mode Power MOSFET

V_{(BR)DSS}	R_{DS(on)MAX}	I_D
- 60V	80mΩ@-10V	- 5A



Description

The FTK60P05S uses advanced trench technology and design to provide excellent R_{DS(ON)} with low gate charge. It can be used in a wide variety of applications.

Feature

- V_{DS} =-60V, I_D =-5A
R_{DS(ON)} <80mΩ @ V_{GS}=-10V
- High density cell design for ultra low R_{DS(ON)}
- Fully characterized avalanche voltage and current
- Excellent package for good heat dissipation

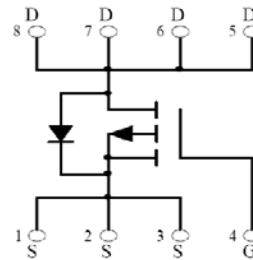
Application

- Power switching application
- Hard switched and high frequency circuits
- DC-DC Converter

MARKING:



Equivalent Circuit



Absolute Maximum Ratings (T_a=25°C unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V _{DS}	-60	V
Gate-Source Voltage	V _{GS}	±20	V
Drain Current-Continuous	I _D	-5	A
Pulsed Drain Current (Note 1)	I _{DM}	-25	A
Operating Junction	T _J	150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C
Lead Temperature for Soldering Purposes(1/8" form case for 10s)	T _L	260	°C
Thermal Resistance ,Junction-to-Ambient(Note 2)	R _{θJA}	100	°C/W



FTK60P05S

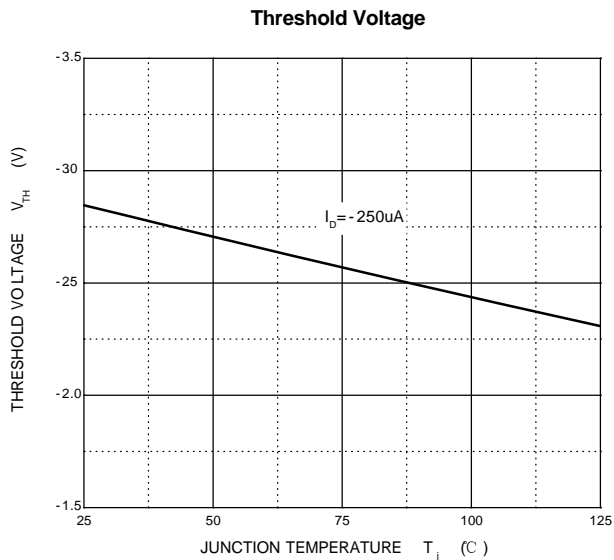
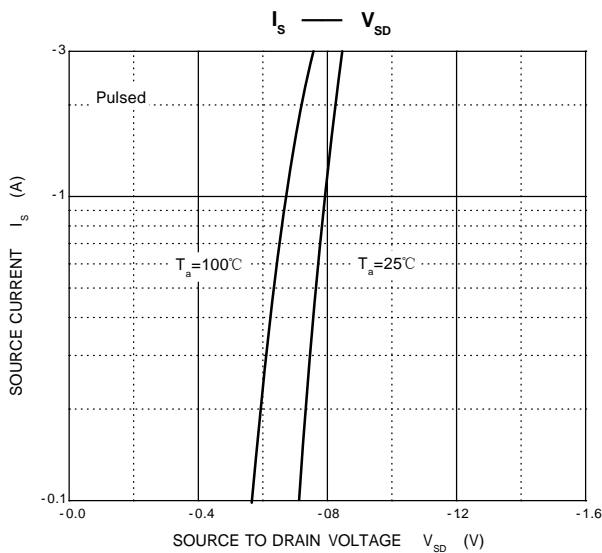
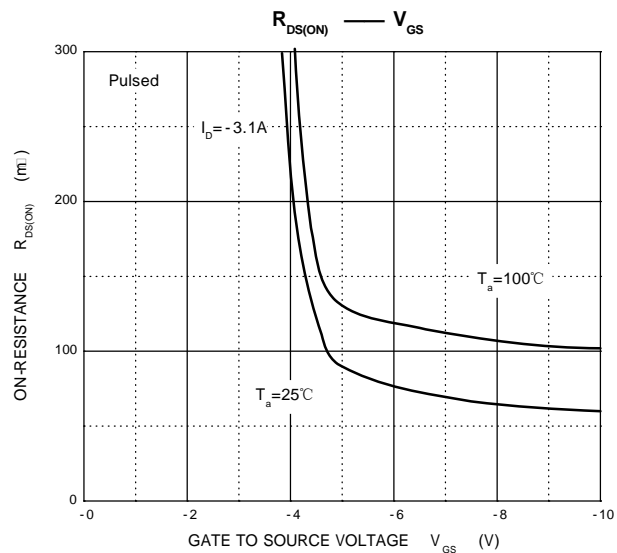
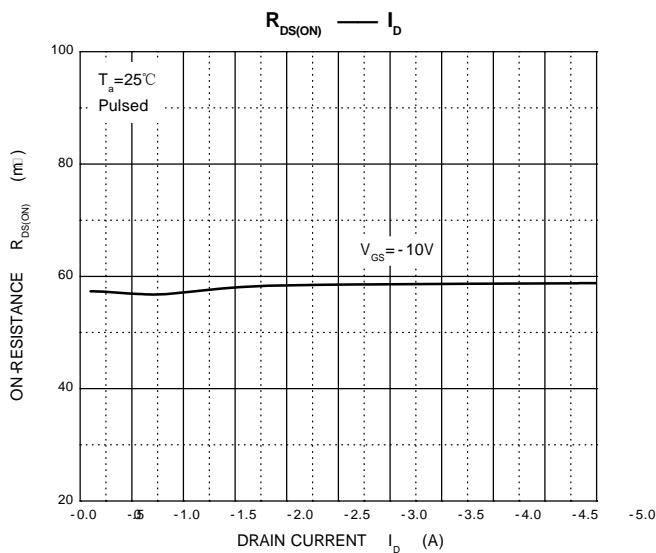
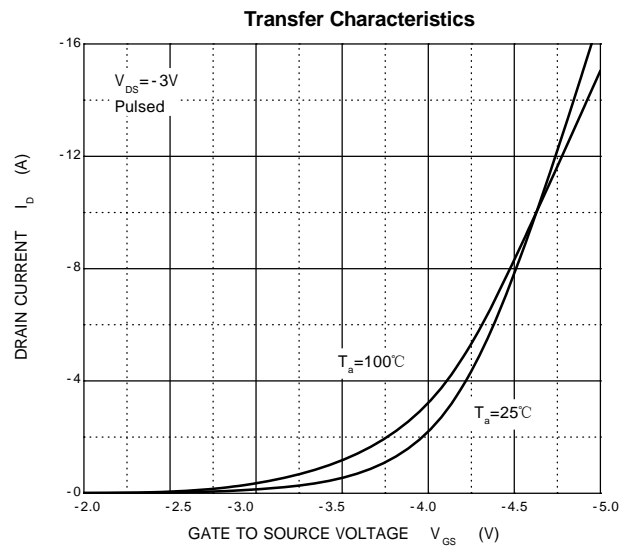
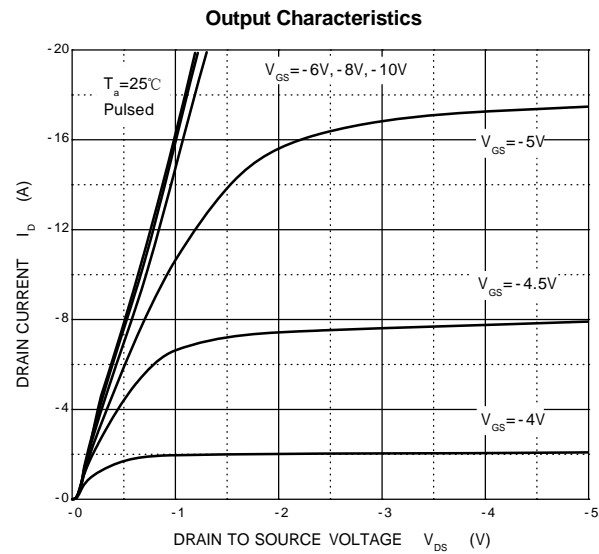
Electrical characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit	
Off Characteristics							
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	-60			V	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-60V, V_{GS}=0V$			-1	μA	
Gate-Body Leakage Current	I_{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$			± 100	nA	
On Characteristics (Note 3)							
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.5		-3.5	V	
Drain-Source On-State Resistance	$R_{DS(ON)}$	$V_{GS}=-10V, I_D=-5A$			80	m Ω	
Forward Transconductance	g_{FS}	$V_{DS}=-15V, I_D=-5A$	5			S	
Dynamic Characteristics (Note4)							
Input Capacitance	C_{iss}	$V_{DS}=-20V, V_{GS}=0V,$ $f=1.0MHz$		1450		pF	
Output Capacitance	C_{oss}				145		pF
Reverse Transfer Capacitance	C_{rss}				110		pF
Switching Characteristics (Note 4)							
Turn-on Delay Time	$t_{d(on)}$	$V_{DD}=-30V, R_L=30\Omega$ $V_{GS}=-10V, R_{GEN}=6\Omega$		8		ns	
Turn-on Rise Time	t_r				9		ns
Turn-Off Delay Time	$t_{d(off)}$				65		ns
Turn-Off Fall Time	t_f				30		ns
Total Gate Charge	Q_g	$V_{DS}=-30V, I_D=-5A,$ $V_{GS}=-10V$		26		nC	
Gate-Source Charge	Q_{gs}				4.5		nC
Gate-Drain Charge	Q_{gd}				7		nC
Drain-Source Diode Characteristics							
Diode Forward Voltage (Note 3)	V_{SD}	$V_{GS}=0V, I_S=-3A$			-1.2	V	
Diode Forward Current (Note 2)	I_S				-5	A	

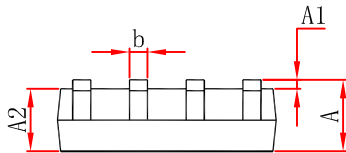
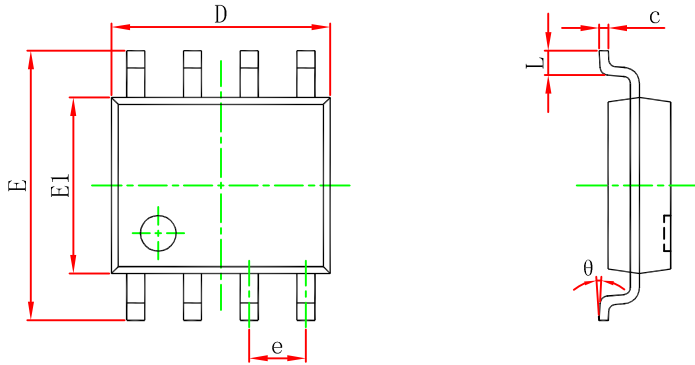
Notes:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, $t \leq 10$ sec.
3. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production

TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS

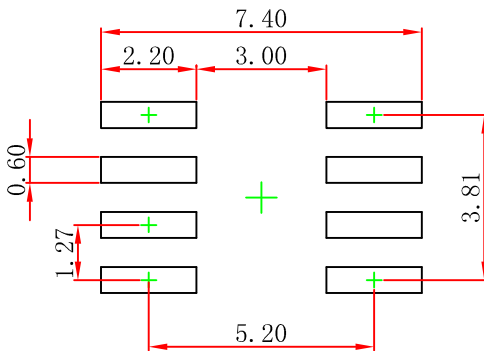


SOP-8 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	---	1.750	---	0.069
A1	0.100	0.250	0.004	0.010
A2	1.250	1.500	0.049	0.059
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.007	0.010
D	4.800	5.000	0.189	0.197
e	1.270 (BSC)		0.050 (BSC)	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

SOP-8 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.