

20V P-Channel Enhancement-Mode MOSFET

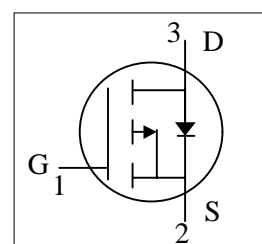
1. FEATURES

- $V_{(BR)DSS} = -20V$
 $R_{DS(ON)} \leq 255m\Omega @ V_{GS} = -4.5V, I_D = -1.0A$
 $R_{DS(ON)} \leq 355m\Omega @ V_{GS} = -2.5V, I_D = -0.5A$
- We declare that the material of product compliance with RoHS requirements and Halogen Free.



2. APPLICATIONS

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- Load Switch
- DSC



3. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	Shipping
FTK1480	W14	3000/Tape&Reel

4. MAXIMUM RATINGS($T_a = 25^\circ C$)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 8.0	
Continuous Drain Current	I_D	-1.4	A
Pulsed Drain Current ($t_p=10\mu s$)	I_{DM}	-3.0	
Power Dissipation (Note 1)	P_D	0.29	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	431	$^\circ C/W$
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-50 ~ +150	

Note 1. FR-4 @ Minimum Pad.



5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

OFF CHARACTERISTICS

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Voltage (ID = -250μA, VGS = 0V)	V(BR)DSS	-20	-	-	V
Zero Gate Voltage Drain Current (VDS = -16V, VGS = 0V)	IDSS	-	-	-1	μA
Gate-body Leakage Current (VDS = 0V, VGS = ±8V)	IGSS	-	-	±100	nA

ON CHARACTERISTICS

Gate Threshold Voltage (VDS = VGS, ID = -250μA)	VGS(th)	-0.4	-0.6	-1.0	V
Static Drain-Source On resistance (VGS = -4.5V, ID = -1.0A) (VGS = -2.5V, ID = -0.5A) (VGS = -1.8V, ID = -0.3A)	RDS(ON)	-	110 150 190	255 355 405	mΩ

Dynamic

Transconductance (VDS = -10V, ID = -1A)	gFS	4	6	-	S
Input Capacitance	(VDS = -10V, VGS = 0V, f = 1MHz)	Ciss	-	480	pF
Output Capacitance		Coss	-	58	
Reverse Transfer Capacitance		Crss	-	51	
Gate Resistance (VDS = 0V, VGS = 0V, f = 1MHz)	Rg	-	12	-	Ω

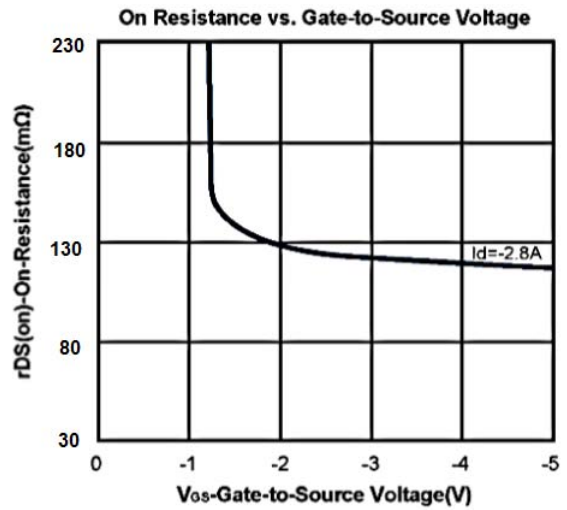
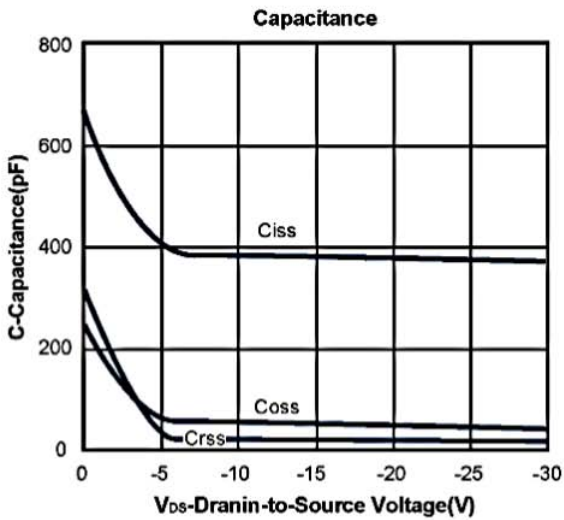
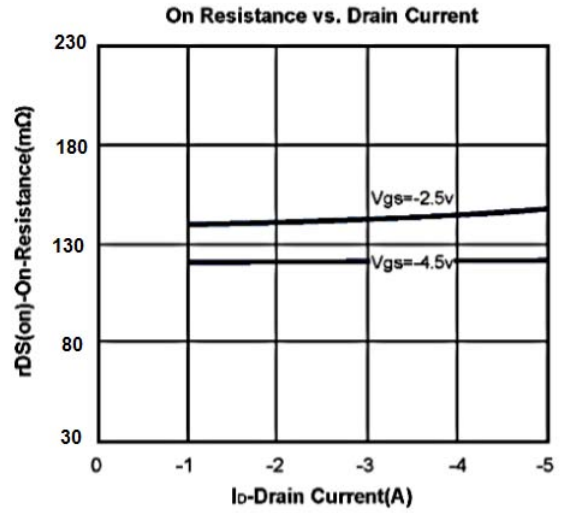
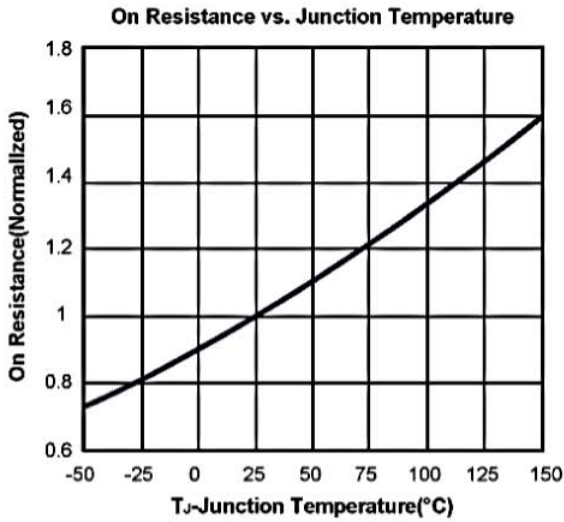
Switching

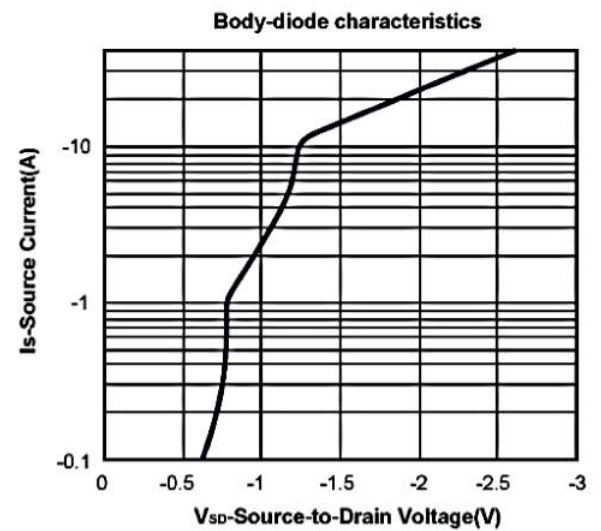
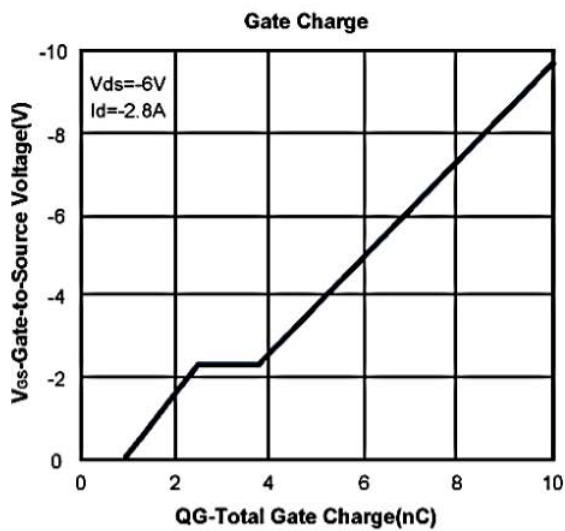
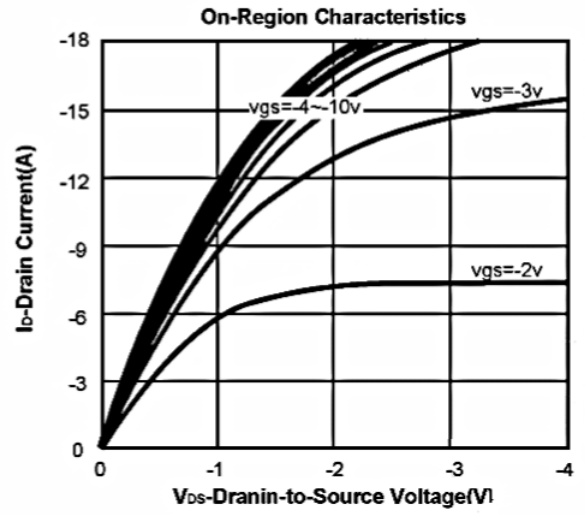
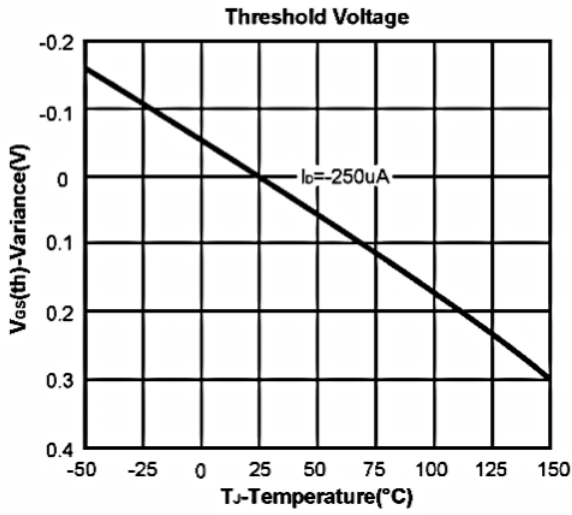
Total Gate Charge	(VGS = -4.5V, ID = -1.2A, VDS = -10V)	Qg	-	6.5	-	nC
Gate Source Charge		Qgs	-	0.3	-	
Gate Drain Charge		Qgd	-	0.7	-	
Turn-On Delay Time	(VGS = -4.5V, VDS = -10V, ID = -1.2A, RGEN = 6Ω)	tD(on)	-	8	-	ns
Turn-On Rise Time		tr	-	6	-	
Turn-Off Delay Time		tD(off)	-	42	-	
Turn-Off Fall Time		tf	-	7	-	

Source Drain Diode

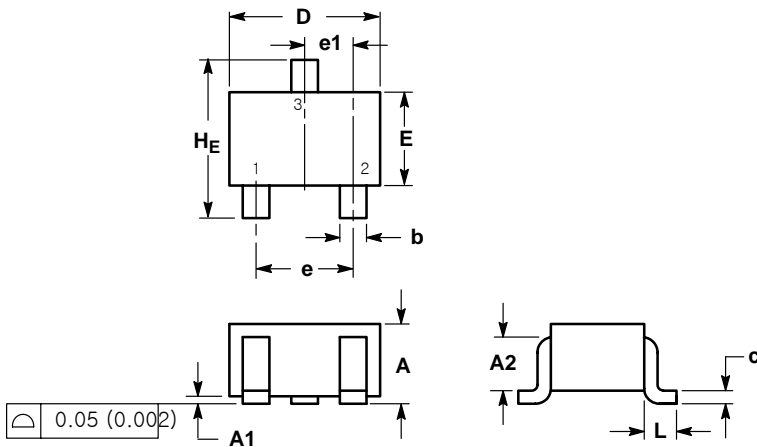
Diode Forward Voltage (IS = -1A, VGS = 0V)	VSD	-	-0.79	-1.2	V
Maximum Body-diode Continuous Current	Is	-	-	-1	A
Body-diode Reverse Recovery Time (Is = -1.0A, di/dt = 100A/μs)	trr	-	30	-	ns
Body-diode Reverse Recovery Charge (Is = -1.0A, di/dt = 100A/μs)	Qrr	-	12	-	nC

Typical Characteristics





SC-70 / SOT-323



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.85	0.95	1.10	0.033	0.035	0.043
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.7 REF			0.028 REF		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	2.00	2.10	2.20	0.079	0.083	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC			0.026 BSC		
L	0.425 REF			0.017 REF		
HE	2.15	2.30	2.45	0.085	0.091	0.096

SOLDERING FOOTPRINT*

