

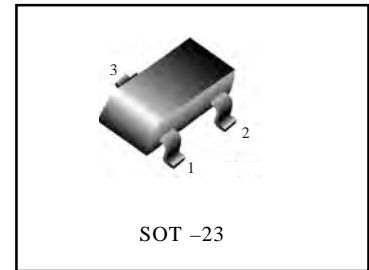
POWER MOSFET

130 mAmps, 50 Volts

P-Channel SOT-23

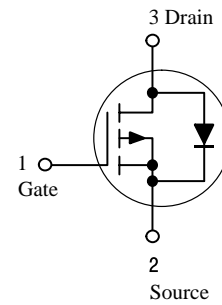
These miniature surface mount MOSFETs reduce power loss conserve energy, making this device ideal for use in small power management circuitry. Typical applications are dc-dc converters, load switching, power management in portable and battery-powered products such as computers, printers, cellular and cordless telephones.

- Energy Efficient
- Miniature SOT-23 Surface Mount Package Saves Board Space



MAXIMUM RATINGS (T_J = 25 °C unless otherwise noted)

Rating	Symbol	Value	Unit
Drain-to-Source Voltage	V _{DSS}	-50	Vdc
Gate-to-Source Voltage – Continuous	V _{GS}	±20	Vdc
Drain Current			mA
– Continuous @ T _A = 25 C	I _D	-130	
– Pulsed Drain Current (t _p ≤ 10μs)	I _{DM}	-520	
Total Power Dissipation @ T _A = 25 C	P _D	225	mW
Operating and Storage Temperature Range	T _J , T _{stg}	- 55 to 150	C
Thermal Resistance – Junction-to-Ambient	R _{θJA}	556	C/W
Maximum Lead Temperature for Soldering Purposes, for 10 seconds	T _L	260	C



ORDERING INFORMATION

Device	Marking	Shipping
FTK84LT1G	PD	3000/Tape&Reel

ELECTRICAL CHARACTERISTICS (T_A = 25 °C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit	
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage (V _{GS} = 0, I _D = -250μAdc)	V _{(BR)DSS}	-50	-	-	Vdc	
Zero Gate Voltage Drain Current (V _{DS} = -25 Vdc, V _{GS} = 0 Vdc) (V _{DS} = -50 Vdc, V _{GS} = 0 Vdc) (V _{DS} = -50 Vdc, V _{GS} = 0 Vdc, T _J = 125 °C)	I _{DSS}	-	-	-0.1 -15 -60	μAdc	
Gate-Body Leakage Current (V _{GS} = ±20 Vdc, V _{DS} = 0Vdc)	I _{GSS}	-	-	±60	μAdc	
ON CHARACTERISTICS (Note 1.)						
Gate-Source Threshold Voltage (V _{DS} = V _{GS} , I _D = -1.0 mAdc)	V _{GS(th)}	-0.8	-	-2.0	Vdc	
Static Drain-to-Source On-Resistance (V _{GS} = -5.0 Vdc, I _D = -100 mAdc)	r _{DS(on)}	-	5.0	10	Ω	
Transfer Admittance (V _{DS} = -25 Vdc, I _D = -100 mAdc, f = 1.0 MHz)	y _{FS}	50	-	-	mS	
DYNAMIC CHARACTERISTICS						
Input Capacitance (V _{DS} = -5.0Vdc)	C _{iss}	-	30	-	pF	
Output Capacitance (V _{DS} = -5.0Vdc)	C _{oss}	-	10	-	pF	
Transfer Capacitance (V _{DG} = -5.0Vdc)	C _{rss}	-	5.0	-	pF	
SWITCHING CHARACTERISTICS (Note 2.)						
Turn-On Delay Time	(V _{DD} = -15 Vdc, I _D = -2.5 Adc, R _L = 50 Ω)	t _{d(on)}	-	2.5	-	ns
Rise Time		t _r	-	1.0	-	ns
Turn-Off Delay Time		t _{d(off)}	-	16	-	ns
Fall Time		t _f	-	8.0	-	ns
Gate Charge		Q _T	-	6000	-	pC
SOURCE-DRAIN DIODE CHARACTERISTICS						
Continuous Current	I _S	-	-	-0.130	A	
Pulsed Current	I _{SM}	-	-	-0.520	A	
Forward Voltage (Note 2.)	V _{SD}	-	-2.5	-	V	

1. Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%.
2. Switching characteristics are independent of operating junction temperature.

TYPICAL ELECTRICAL CHARACTERISTICS

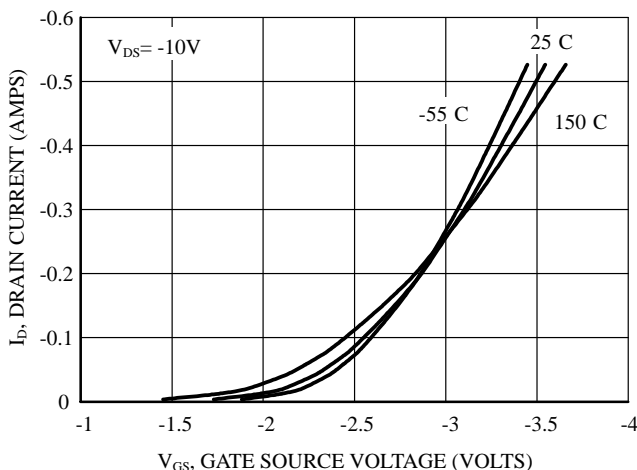


Figure 1. Transfer Characteristics

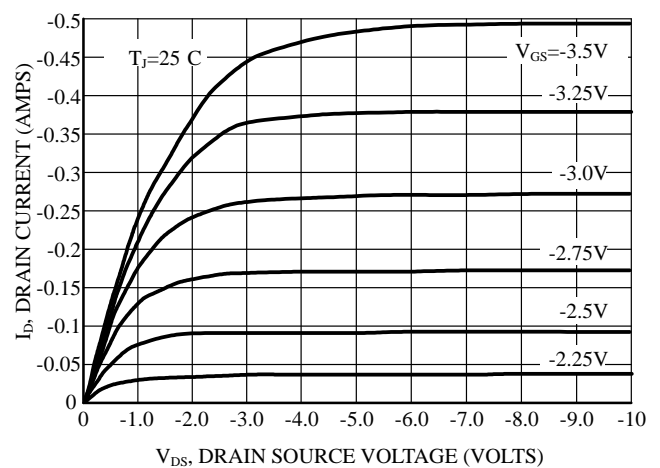


Figure 2. On-Region Characteristics

TYPICAL ELECTRICAL CHARACTERISTICS

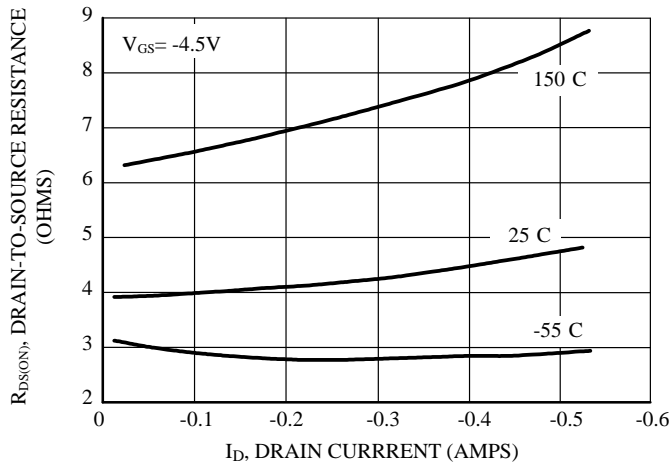


Figure 3. On-Resistance versus Drain Current

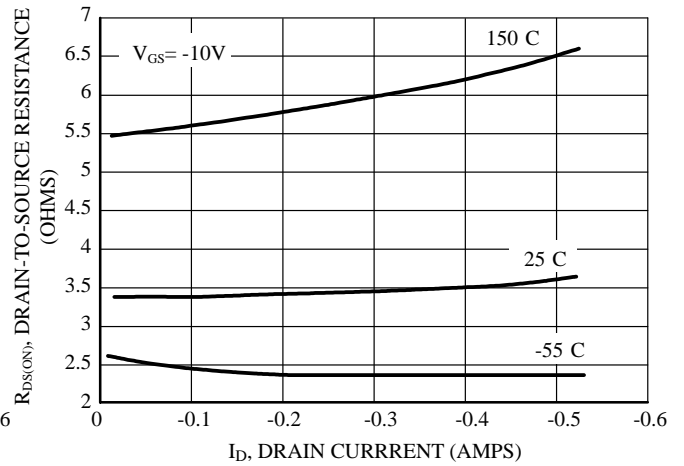


Figure 4. On-Resistance versus Drain Current

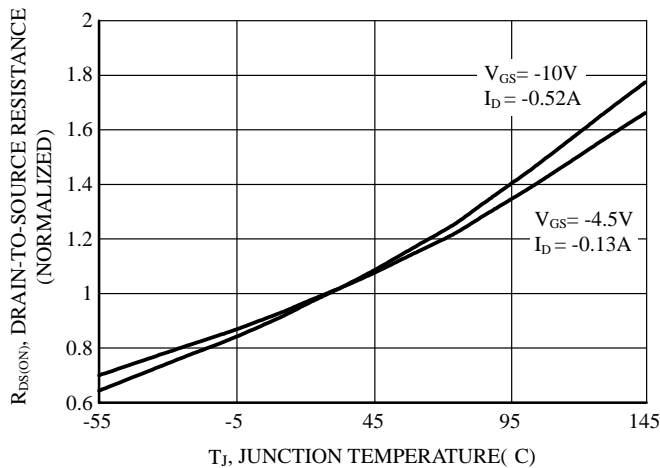


Figure 5. On-Resistance Variation with Temperature

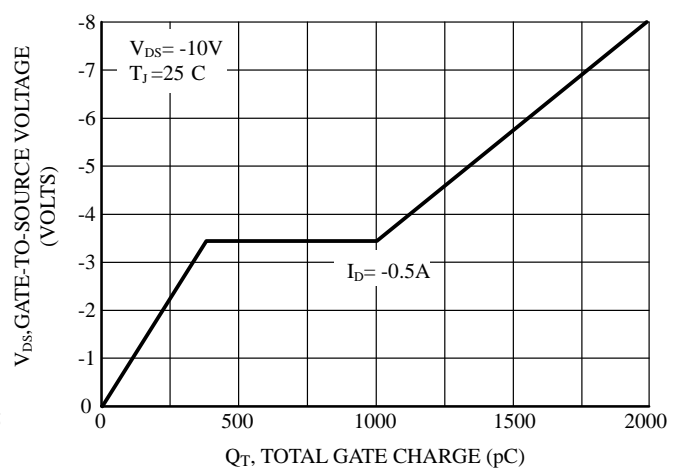


Figure 6. Gate Charge

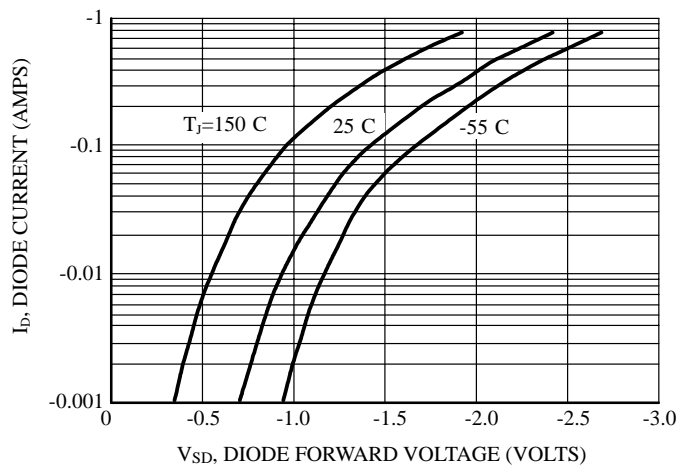
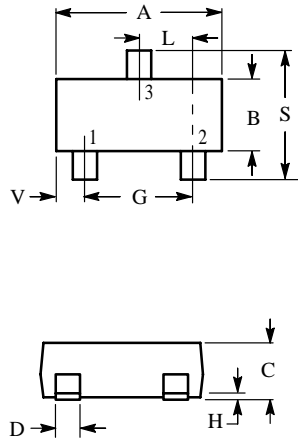


Figure 7. Body Diode Forward Voltage

SOT-23

NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2. CONTROLLING DIMENSION: INCH.



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

- PIN 1 BASE
 2 EMITTER
 3 COLLECTOR

