

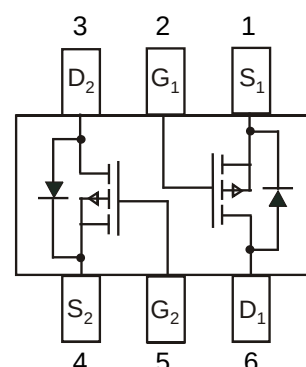
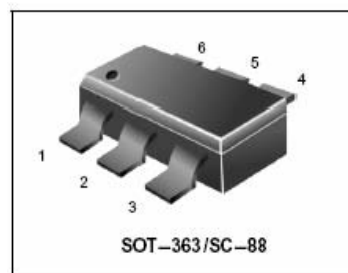
Power MOSFET

130 mAmps, 50 Volts

P-Channel SC-88(SOT-363)

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 SC88 Surface Mount Package Saves Board Space
- Pb-Free Package is available.



MAXIMUM RATINGS ($T_J = 25^\circ\text{C}$ unless otherwise noted)

Rating	Symbol	Value	Unit
Drain-to-Source Voltage	V_{DSS}	50	V _{dc}
Gate-to-Source Voltage – Continuous	V_{GS}	± 20	V _{dc}
Drain Current	I_D	130	mA
– Pulsed Drain Current ($t_p \leq 10 \mu\text{s}$)	I_{DM}	520	
Total Power Dissipation @ $T_A = 25^\circ\text{C}$	P_D	380	mW
Operating and Storage Temperature Range	T_J, T_{stg}	-55 to 150	$^\circ\text{C}$
Thermal Resistance – Junction-to-Ambient	$R_{\theta JA}$	328	$^\circ\text{C/W}$
Maximum Lead Temperature for Soldering Purposes, for 10 seconds	T_L	260	$^\circ\text{C}$

ORDERING INFORMATION

Device	Marking	Shipping
FTK84D	PD	3000 Tape & Reel



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Drain-to-Source Breakdown Voltage ($V_{GS} = 0\text{ Vdc}$, $I_D = 250\text{ }\mu\text{Adc}$)	$V_{(BR)DSS}$	50	–	–	Vdc
Zero Gate Voltage Drain Current ($V_{DS} = 25\text{ Vdc}$, $V_{GS} = 0\text{ Vdc}$) ($V_{DS} = 50\text{ Vdc}$, $V_{GS} = 0\text{ Vdc}$) ($V_{DS} = 50\text{ Vdc}$, $V_{GS} = 0\text{ Vdc}$, $T_J = 125^\circ\text{C}$)	I_{DSS}	– – –	– – –	0.1 15 60	μAdc
Gate–Body Leakage Current ($V_{GS} = \pm 20\text{ Vdc}$, $V_{DS} = 0\text{ Vdc}$)	I_{GSS}	–	–	± 100	nAdc

ON CHARACTERISTICS (Note 1.)

Gate–Source Threshold Voltage ($V_{DS} = V_{GS}$, $I_D = 250\text{ }\mu\text{Adc}$)	$V_{GS(th)}$	0.8	–	2.0	Vdc
Static Drain–to–Source On–Resistance ($V_{GS} = 5.0\text{ Vdc}$, $I_D = 100\text{ mAdc}$)	$r_{DS(on)}$	–	5.0	10	Ohms

DYNAMIC CHARACTERISTICS

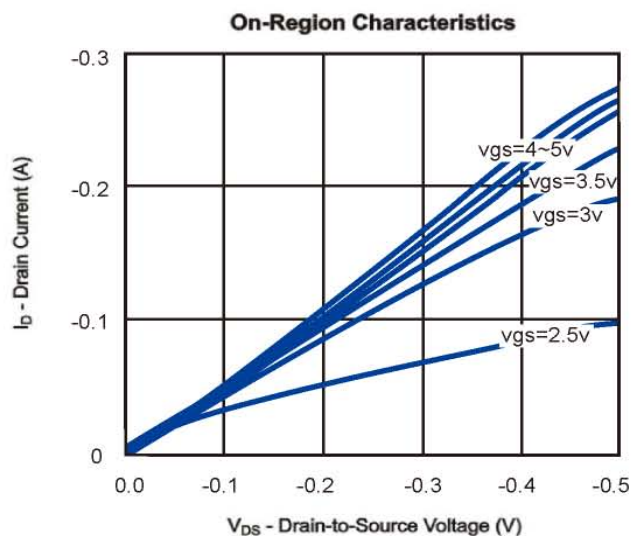
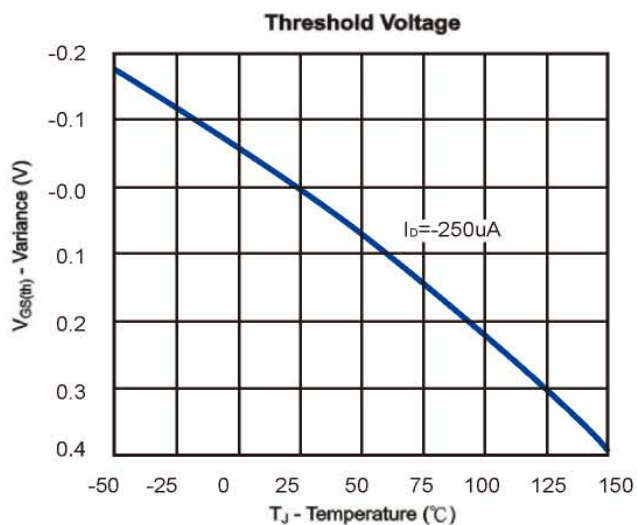
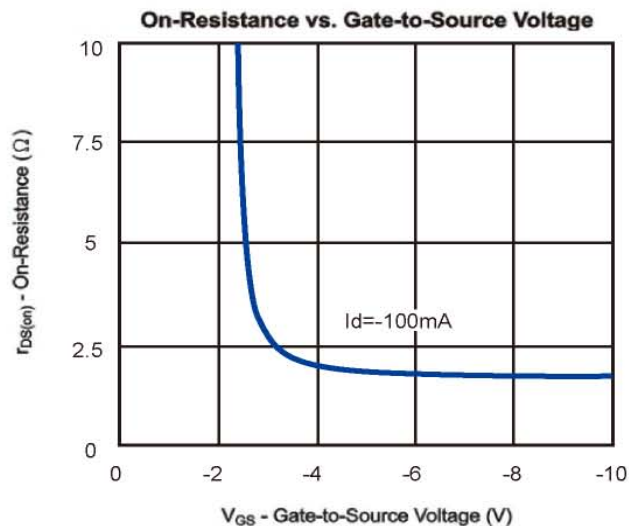
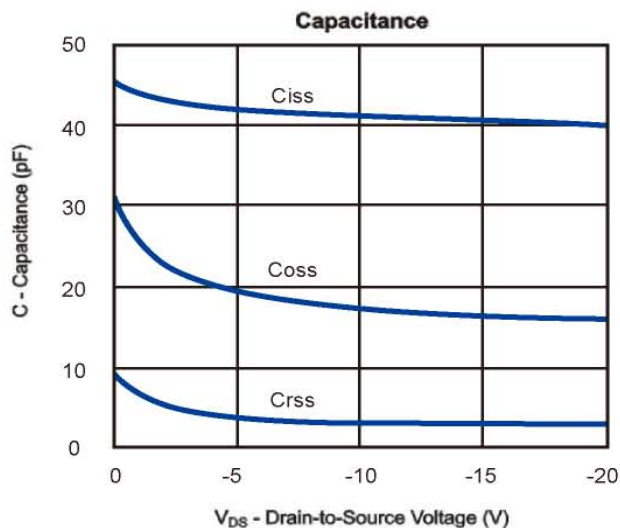
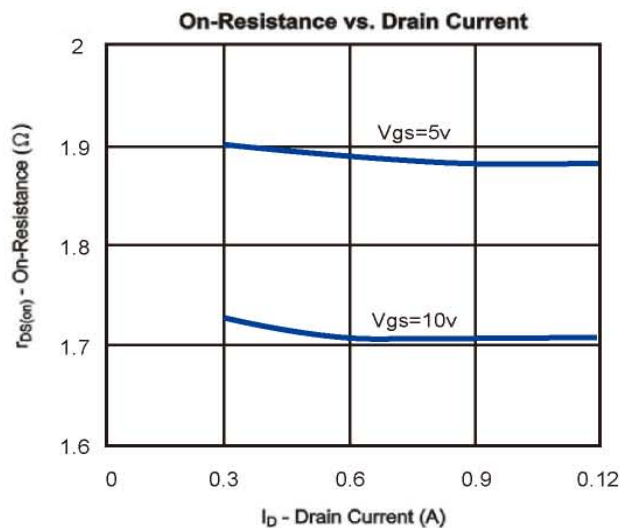
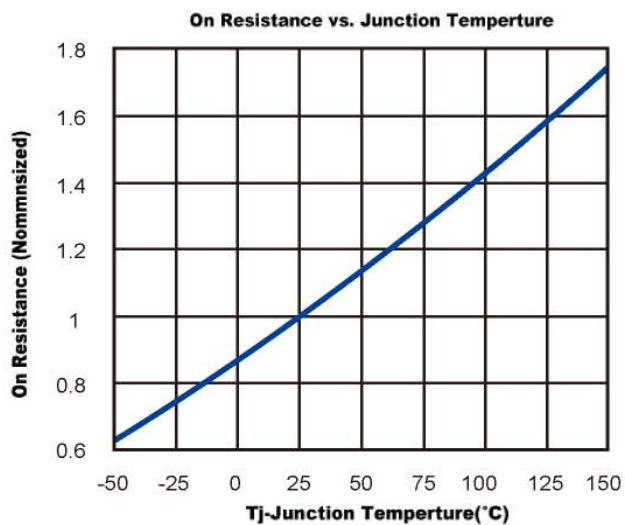
Input Capacitance	($V_{DS} = 5.0\text{ Vdc}$)	C_{iss}	–	42	–	pF
Output Capacitance	($V_{DS} = 5.0\text{ Vdc}$)	C_{oss}	–	20	–	
Transfer Capacitance	($V_{DG} = 5.0\text{ Vdc}$)	C_{rss}	–	4	–	

SWITCHING CHARACTERISTICS (Note 2.)

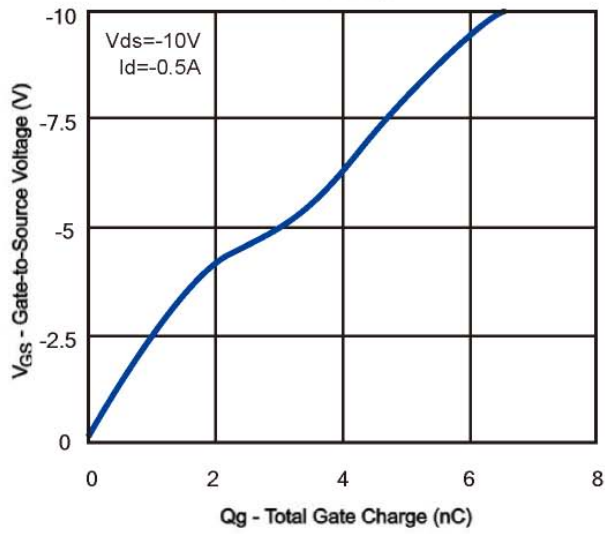
Turn–On Delay Time	(V _{DD} = –15 Vdc, I _D = –2.5 Adc, R _L = 50 Ω)	$t_{d(on)}$	–	13	–	ns
Rise Time		t_r	–	6	–	
Turn–Off Delay Time		$t_{d(off)}$	–	16	–	
Fall Time		t_f	–	3	–	
Gate Charge		Q_T	–	6000	–	pC

1. Pulse Test: Pulse Width $\leq 300\text{ }\mu\text{s}$, Duty Cycle $\leq 2\%$.
2. Switching characteristics are independent of operating junction temperature.

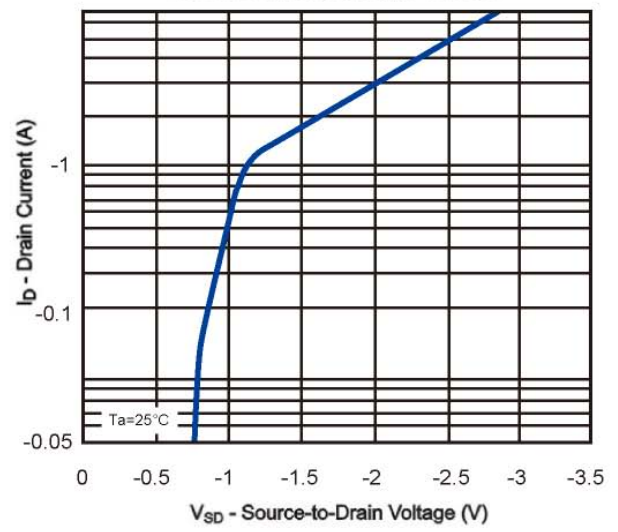
Typical Characteristics (TA = 25°C Noted)



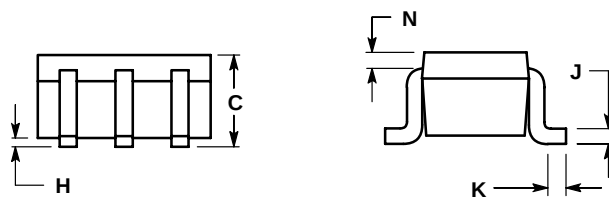
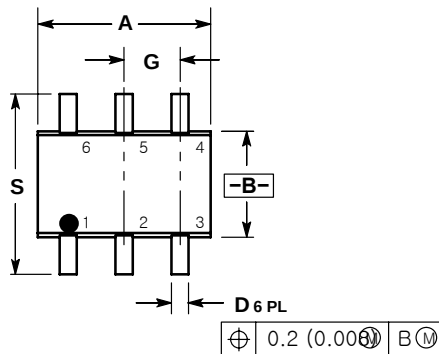
Typical Characteristics (T = 25°C Noted)
Gate Charge



On-Resistance vs. Drain Current



SC-88 (SOT-363) CASE 419B-02 ISSUE T



- NOTES:
1. DIMENSION NG AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.
 3. 419B-01 OBSOLETE, NEW STANDARD 419B-02.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.031	0.043	0.80	1.10
D	0.004	0.012	0.10	0.30
G	0.026 BSC		0.65 BSC	
H	---	0.004	---	0.10
J	0.004	0.010	0.10	0.25
K	0.004	0.012	0.10	0.30
N	0.008 REF		0.20 REF	
S	0.079	0.087	2.00	2.20

- STYLE 1:
- PIN 1. EMITTER 2
 - BASE 2
 - COLLECTOR 1
 - EMITTER 1
 - BASE 1
 - COLLECTOR 2

SOLDERING FOOTPRINT*

