



FW216A

N-Channel Power MOSFET 35V, 4.5A, 64mΩ, Dual SOIC8

ON Semiconductor®

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Features

- ON-resistance N_{ch} : $R_{DS(on)1}=49m\Omega$ (typ.)
- 4.0V drive
- Halogen free compliance
- Protection diode in

Specifications

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

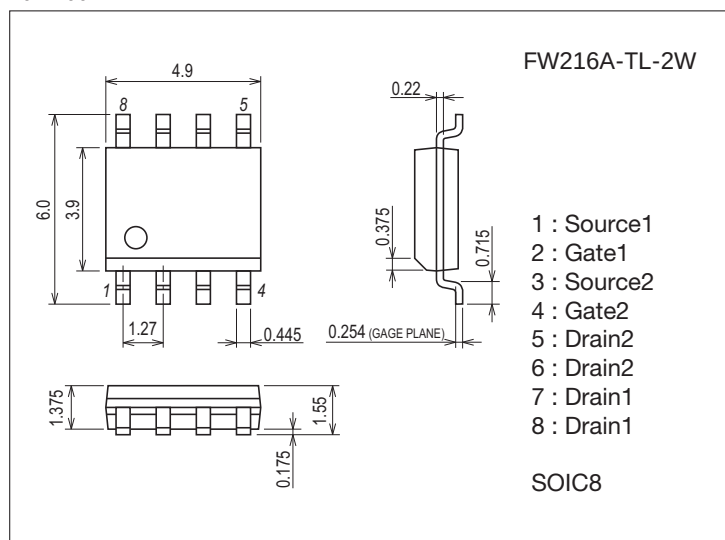
Parameter	Symbol	Conditions	Ratings	Unit
Drain to Source Voltage	V_{DSS}		35	V
Gate to Source Voltage	V_{GSS}		± 20	V
Drain Current (DC)	I_D		4.5	A
Drain Current ($PW \leq 10\mu s$)	I_{DP}	Duty cycle $\leq 1\%$	18	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate ($2000mm^2 \times 0.8mm$) 1unit, $PW \leq 10s$	1.6	W
Total Dissipation	P_T	When mounted on ceramic substrate ($2000mm^2 \times 0.8mm$), $PW \leq 10s$	2.2	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

Package Dimensions

unit : mm (typ)

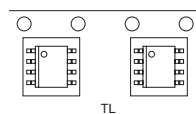
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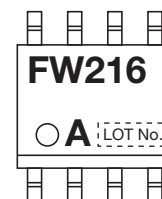
Product & Package Information

- Package : SOIC8
- JEITA, JEDEC : SC-87, SOT-96
- Minimum Packing Quantity : 2,500 pcs./reel

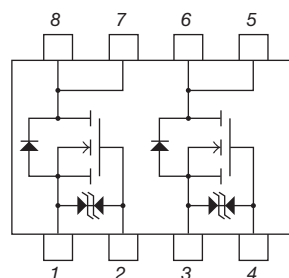
Packing Type : TL



Marking



Electrical Connection

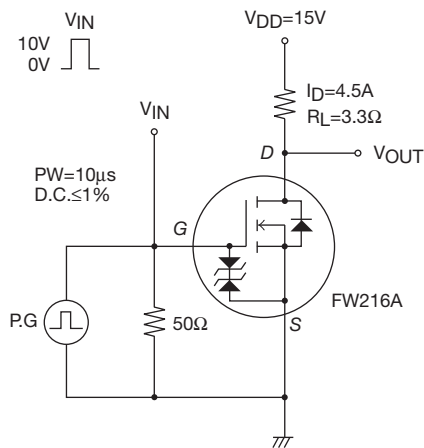


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Electrical Characteristics at Ta=25°C

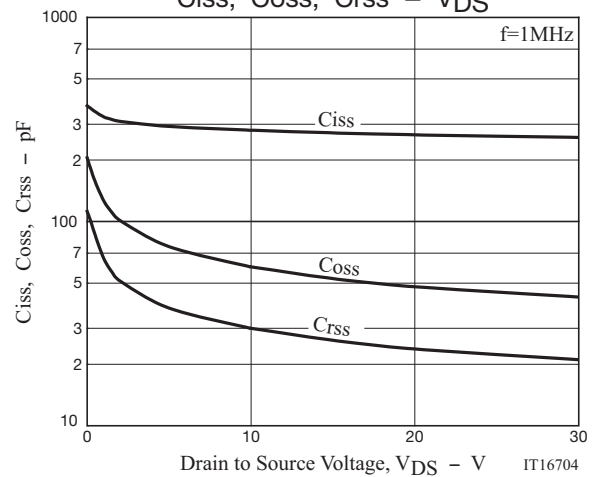
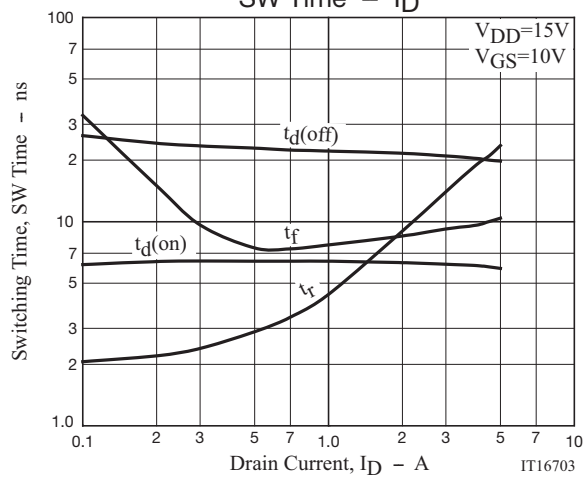
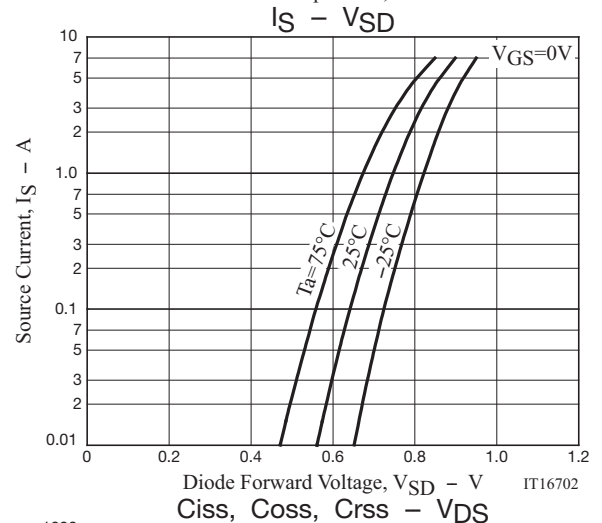
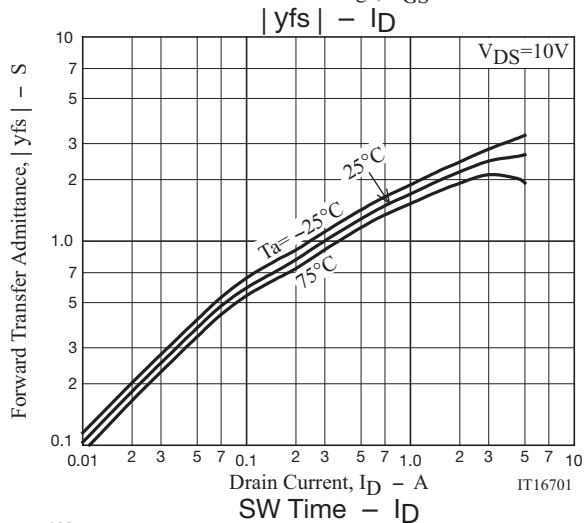
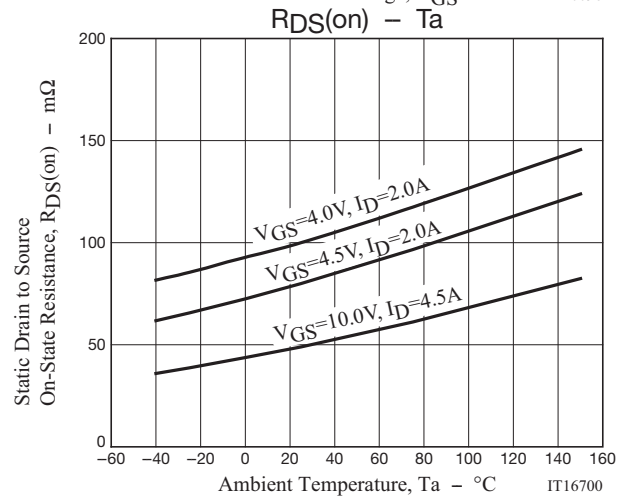
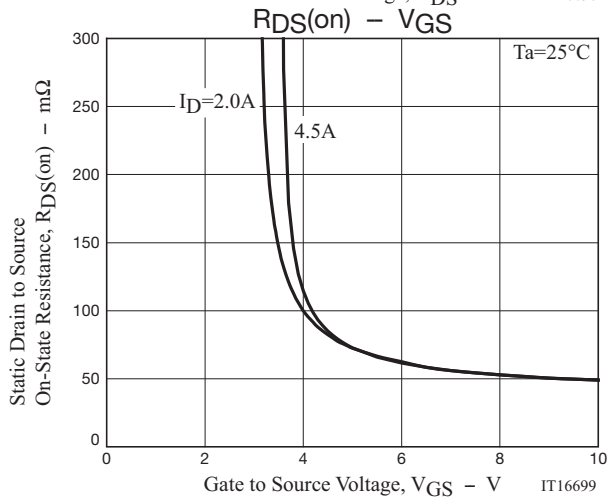
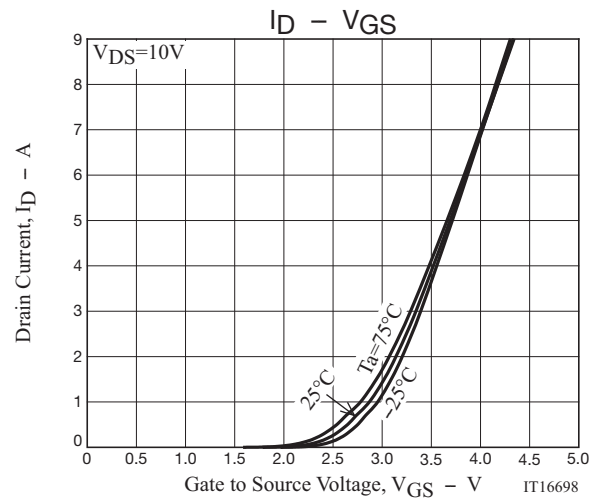
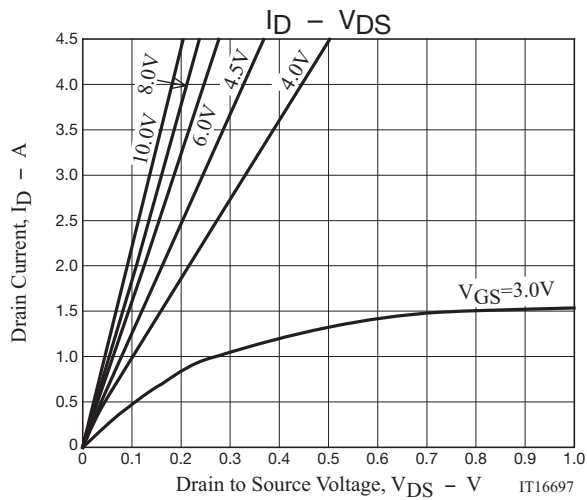
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	35			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=35V, V_{GS}=0V$			1	μA
Gate to Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16V, V_{DS}=0V$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.5		2.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=4.5A$		2.6		S
Static Drain to Source On-State Resistance	$R_{DS(on)1}$	$I_D=4.5A, V_{GS}=10V$		49	64	$m\Omega$
	$R_{DS(on)2}$	$I_D=2A, V_{GS}=4.5V$		80	112	$m\Omega$
	$R_{DS(on)3}$	$I_D=2A, V_{GS}=4.0V$		100	140	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=10V, f=1MHz$		280		pF
Output Capacitance	C_{oss}			60		pF
Reverse Transfer Capacitance	C_{rss}			30		pF
Turn-ON Delay Time	$t_{d(on)}$			6		ns
Rise Time	t_r	See specified Test Circuit.		21		ns
Turn-OFF Delay Time	$t_{d(off)}$			20		ns
Fall Time	t_f			10		ns
Total Gate Charge	Q_g	$V_{DS}=10V, V_{GS}=10V, I_D=4.5A$		5.6		nC
Gate to Source Charge	Q_{gs}			1.2		nC
Gate to Drain "Miller" Charge	Q_{gd}			0.8		nC
Diode Forward Voltage	V_{SD}	$I_S=4.5A, V_{GS}=0V$		0.85	1.2	V

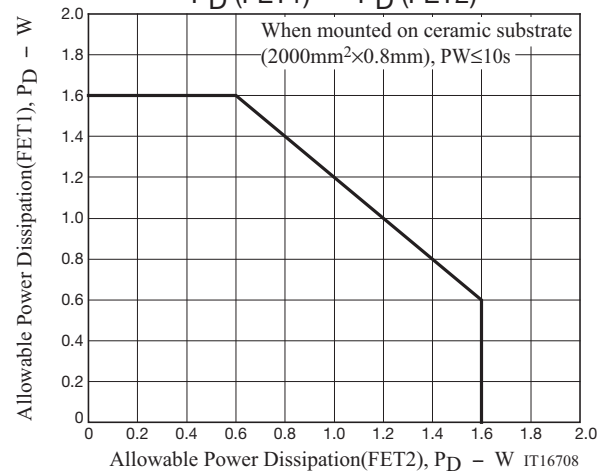
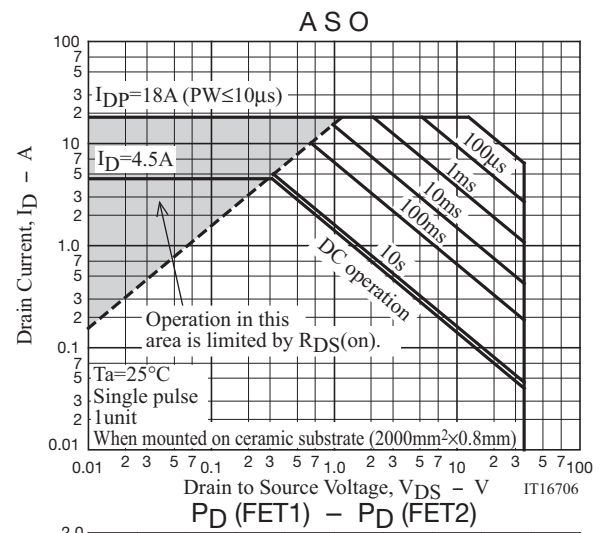
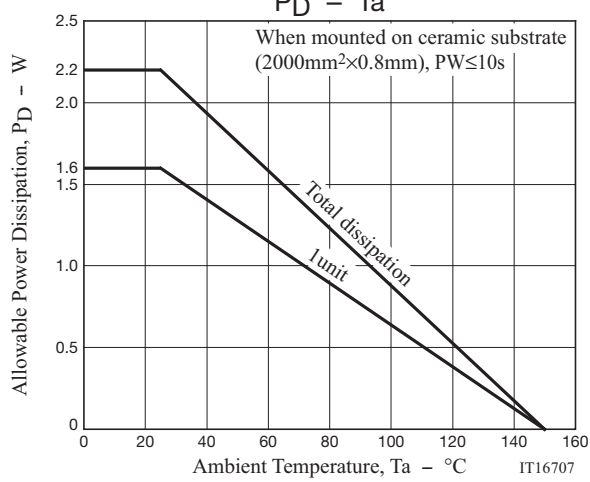
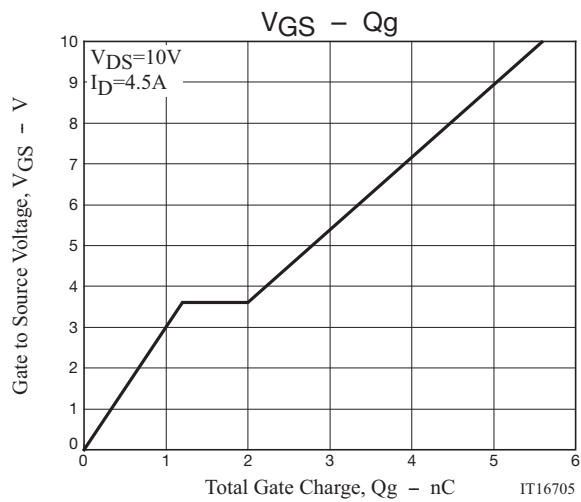
Switching Time Test Circuit



Ordering Information

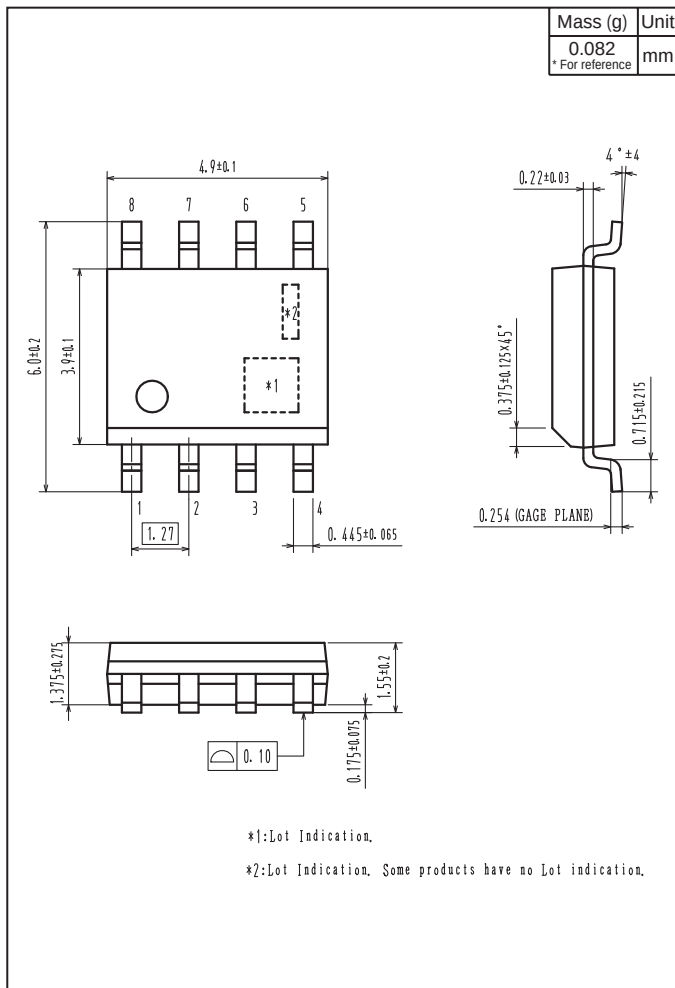
Device	Package	Shipping	memo
FW216A-TL-2W	SOIC8	2,500pcs./reel	Pb Free and Halogen Free



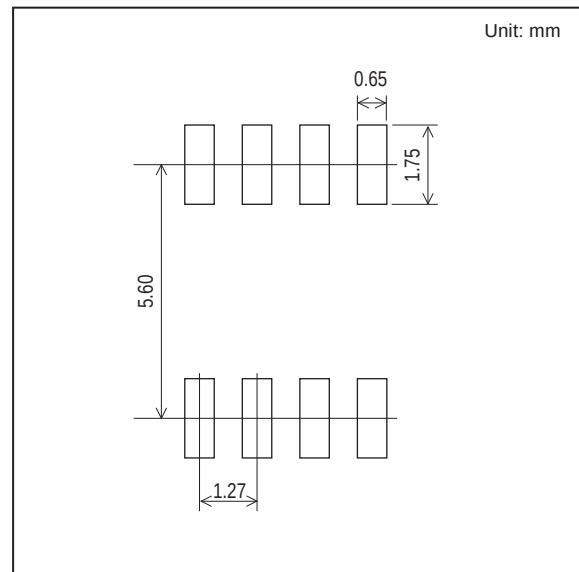


Outline Drawing

FW216A-TL-2W



Land Pattern Example



Note on usage : Since the FW216A is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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