



FW217A

N-Channel Power MOSFET 35V, 6A, 39mΩ, Dual SOIC8

ON Semiconductor®

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Features

- On-state resistance $R_{DS(on)} = 30\text{m}\Omega$ (typ.)
- 4.5V drive
- Halogen free compliance
- Protection Diode in

Specifications

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

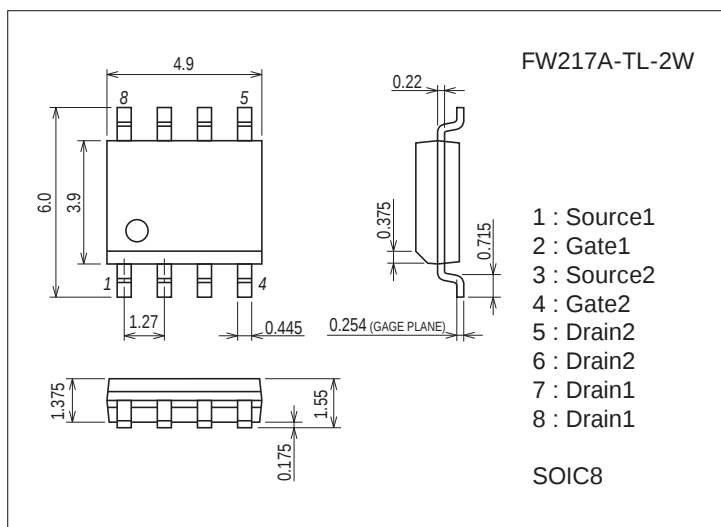
Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		35	V
Gate-to-Source Voltage	V_{GS}		± 20	V
Drain Current (DC)	I_D		6	A
Drain Current ($PW \leq 10\text{s}$)	I_{DP}	Duty cycle $\leq 1\%$	6.5	A
Drain Current ($PW \leq 10\mu\text{s}$)	I_{DP}	Duty cycle $\leq 1\%$	24	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate (2000mm ² × 0.8mm) 1unit, $PW \leq 10\text{s}$	1.8	W
Total Dissipation	P_T	When mounted on ceramic substrate (2000mm ² × 0.8mm), $PW \leq 10\text{s}$	2.2	W
Channel Temperature	T_{ch}		150	°C
Storage Temperature	T_{stg}		-55 to +150	°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)

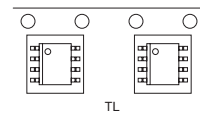
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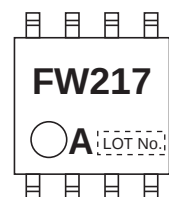
Product & Package Information

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

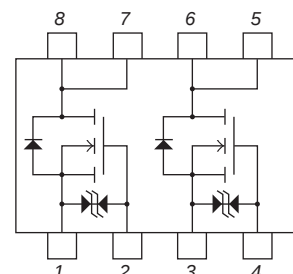
Packing Type : TL



Marking



Electrical Connection

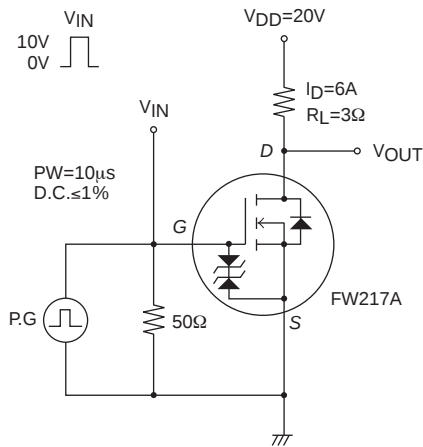


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Electrical Characteristics at Ta=25°C

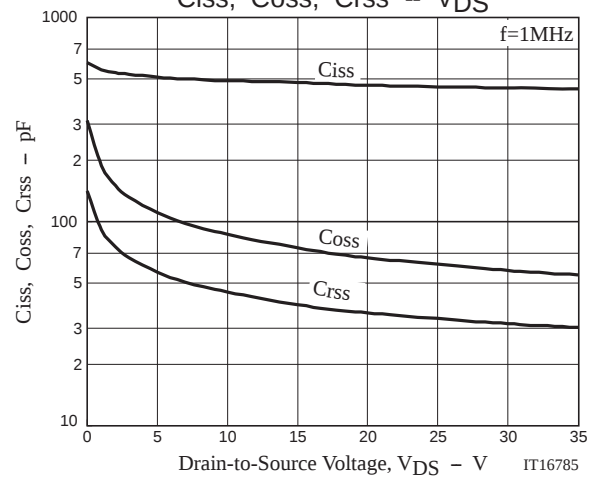
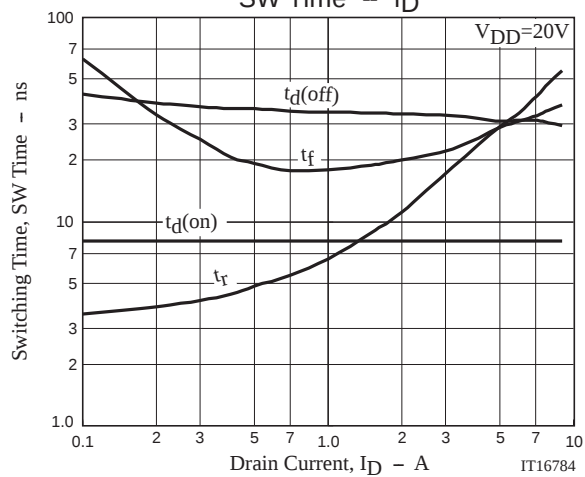
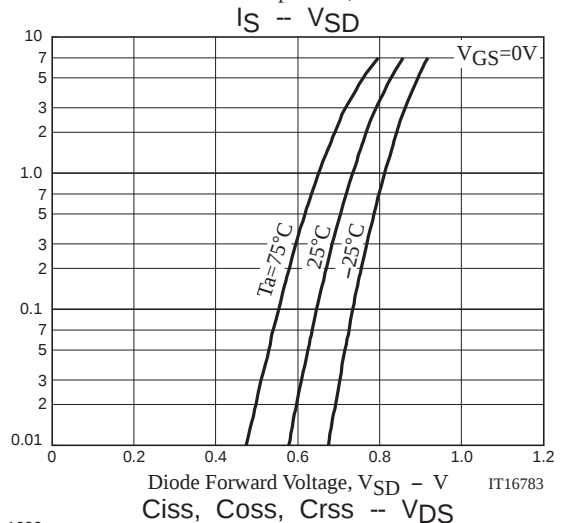
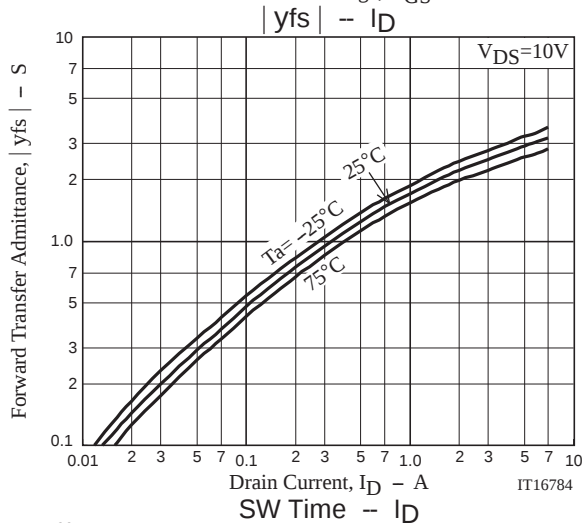
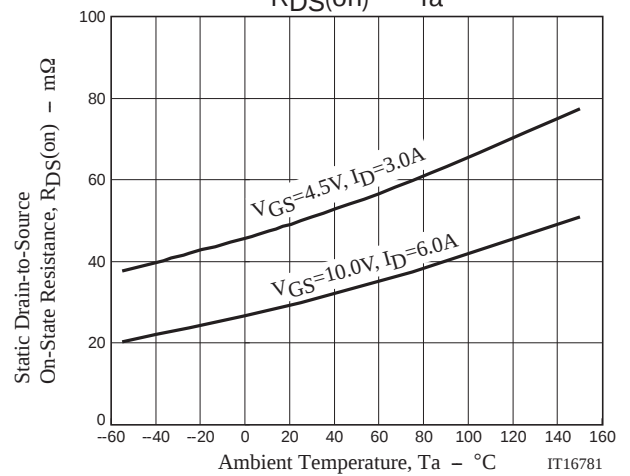
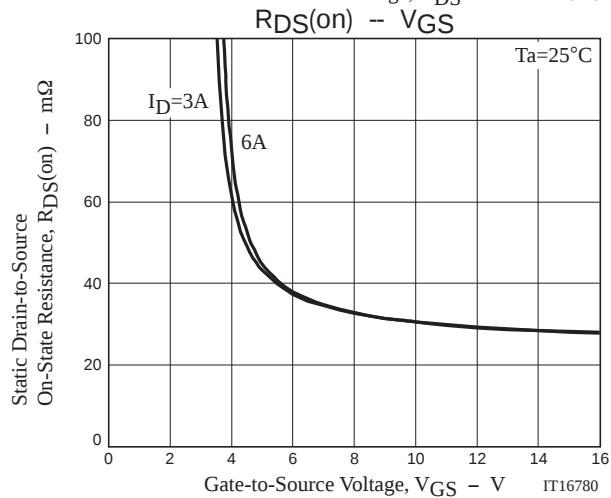
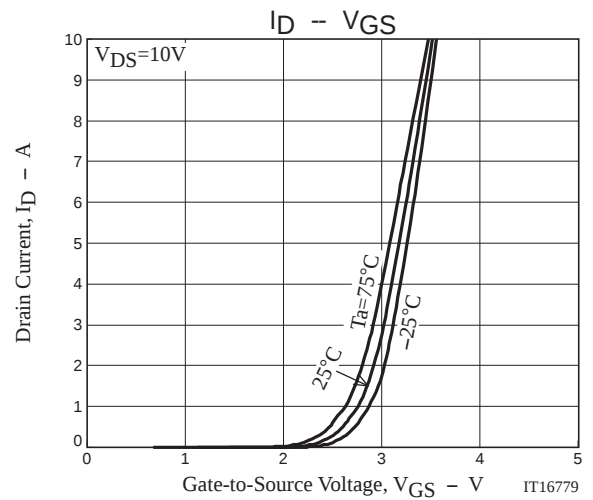
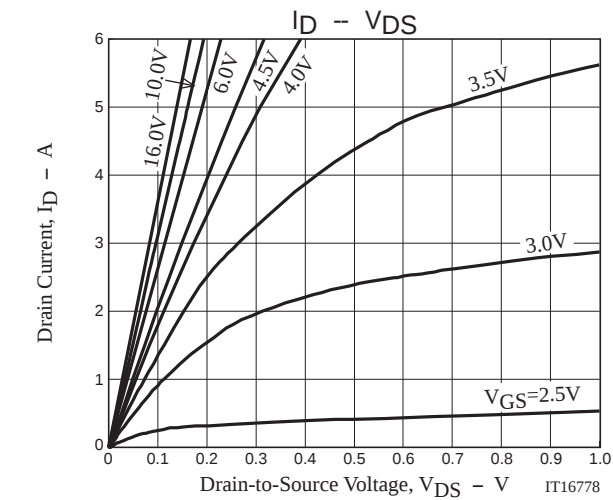
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	35			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=35V, V_{GS}=0V$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16V, V_{DS}=0V$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.7		2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=6A$		3		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=6A, V_{GS}=10V$		30	39	$m\Omega$
	$R_{DS(on)2}$	$I_D=3A, V_{GS}=4.5V$		50	70	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$		470		pF
Output Capacitance	C_{oss}			70		pF
Reverse Transfer Capacitance	C_{rss}			35		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		8		ns
Rise Time	t_r			34		ns
Turn-OFF Delay Time	$t_{d(off)}$			31		ns
Fall Time	t_f			30		ns
Total Gate Charge	Q_g	$V_{DS}=20V, V_{GS}=10V, I_D=6A$		10		nC
Gate-to-Source Charge	Q_{gs}			2		nC
Gate-to-Drain "Miller" Charge	Q_{gd}			2		nC
Diode Forward Voltage	V_{SD}	$I_S=6A, V_{GS}=0V$		0.84	1.2	V

Switching Time Test Circuit



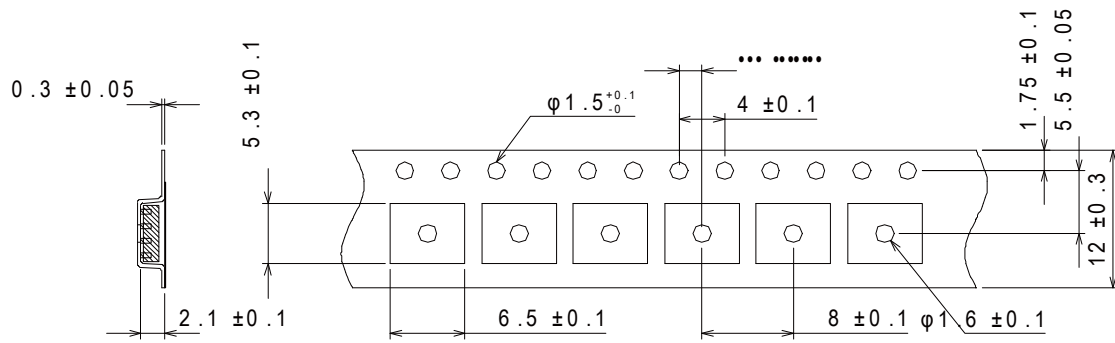
Ordering Information

Device	Package	Shipping	memo
FW217A-TL-2W	SOIC8	2,500pcs./reel	Pb Free and Halogen Free

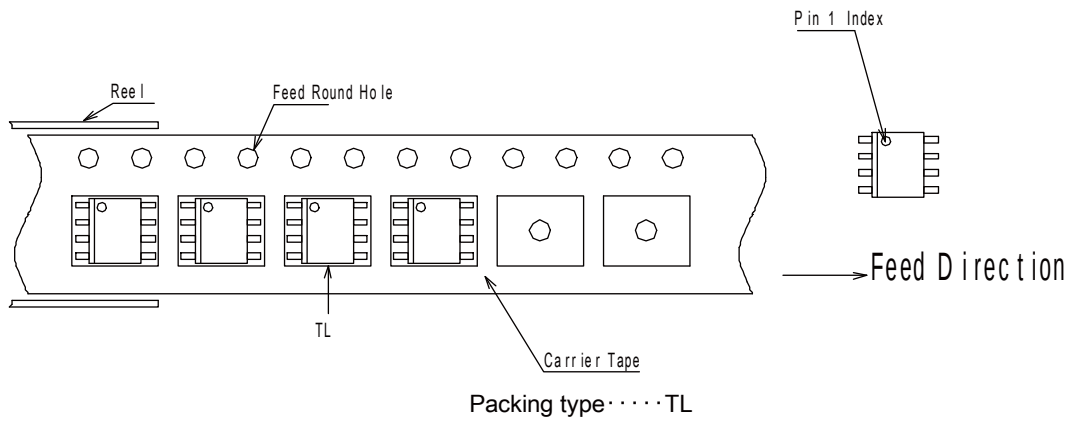


2. Taping configuration

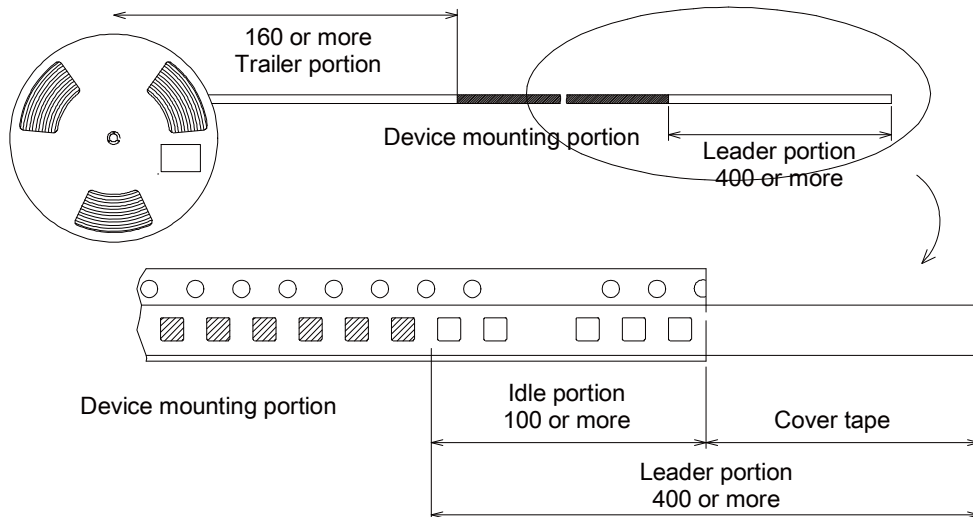
2-1. Carrier tape size (unit: mm)



2-2. Device placement direction



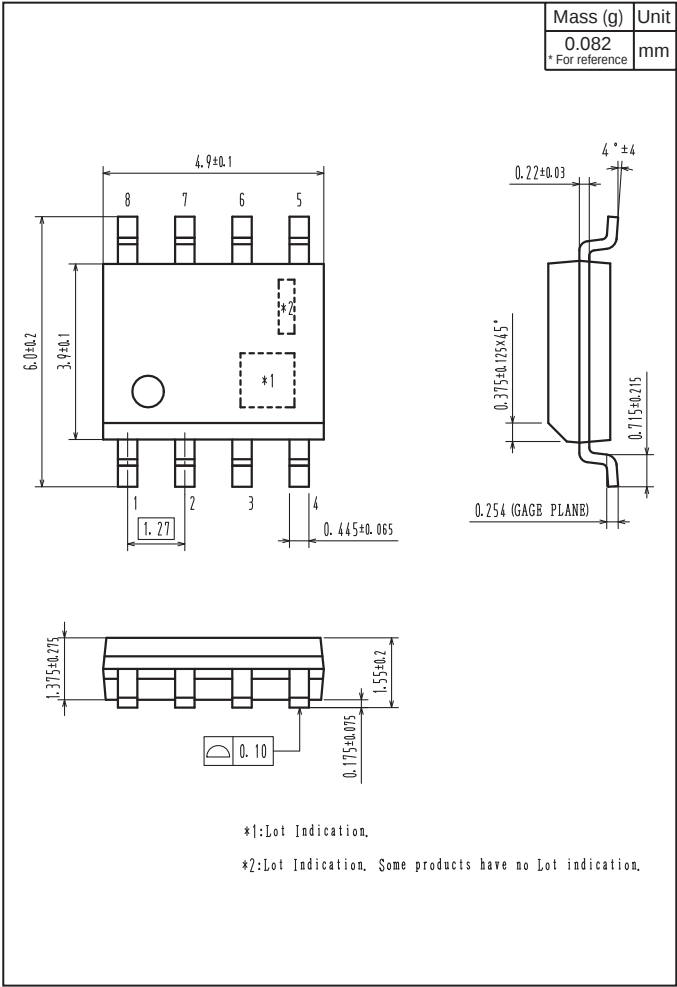
2-3. Leader portion and trailer portion (unit: mm)



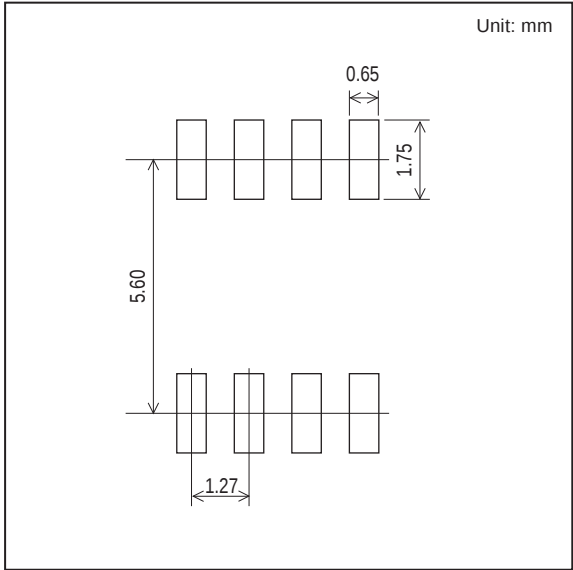
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Outline Drawing

FW217A-TL-2W



Land Pattern Example



Note on usage : Since the FW217A is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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