



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

## FW217A — N-Channel Silicon MOSFET General-Purpose Switching Device Applications

### Features

- On-state resistance  $R_{DS(on)}1=30m\Omega$  (typ.)
- 4.5V drive
- Halogen free compliance
- Protection Diode in

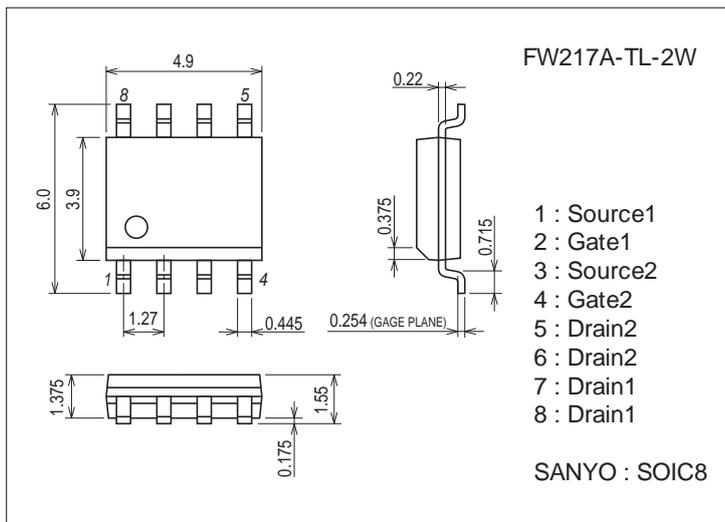
### Specifications

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

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

### Package Dimensions

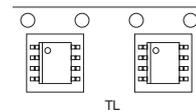
unit : mm (typ)  
7072-001



### Product & Package Information

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

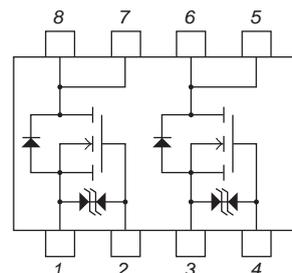
### Packing Type : TL



### Marking



### Electrical Connection

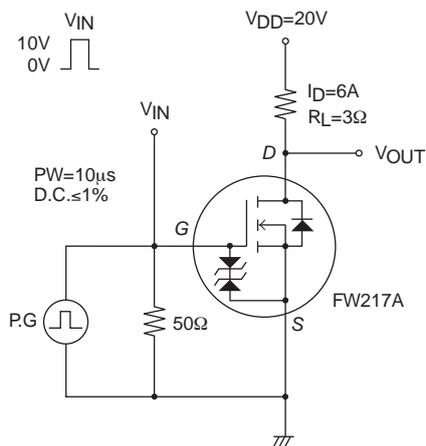


# FW217A

## Electrical Characteristics at Ta=25°C

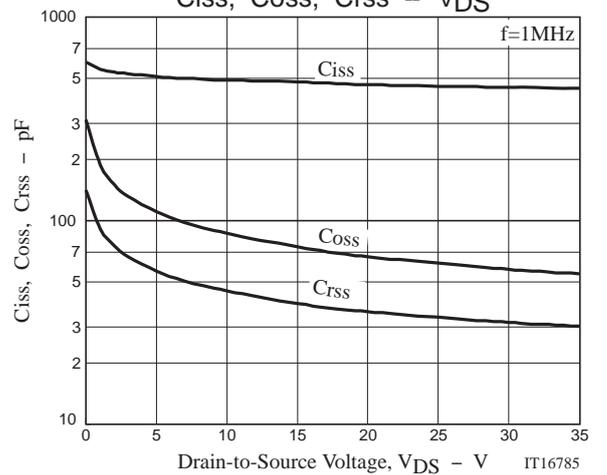
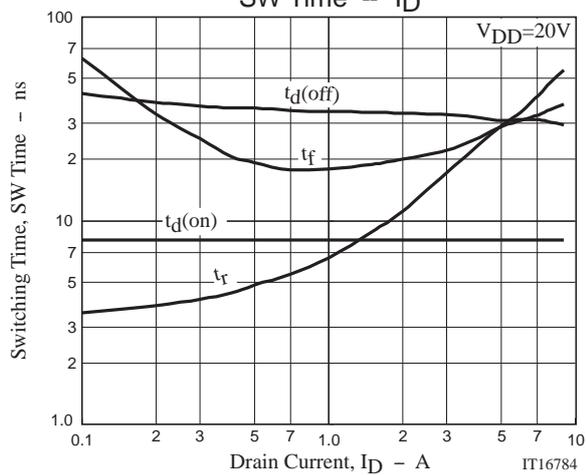
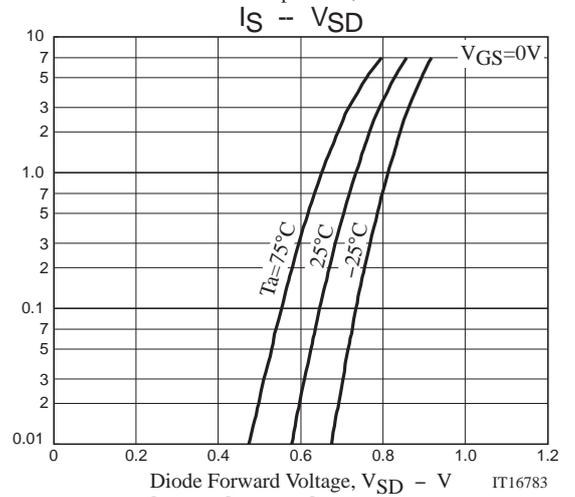
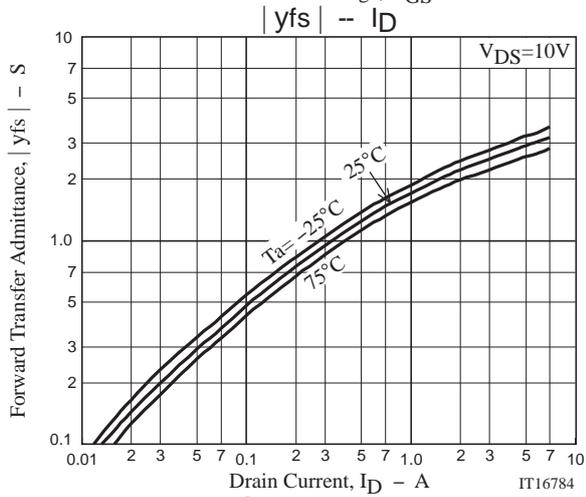
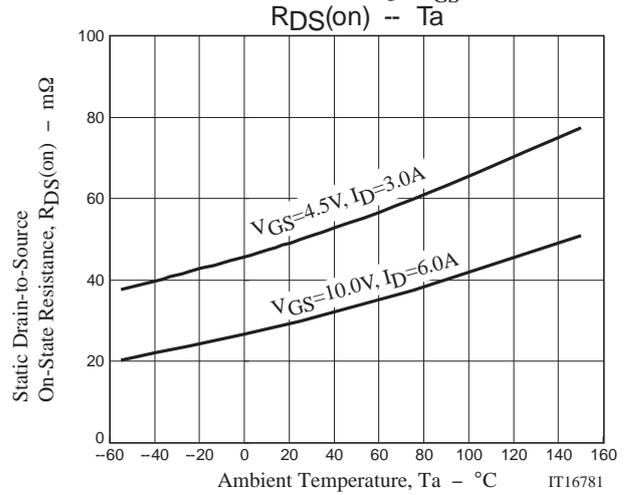
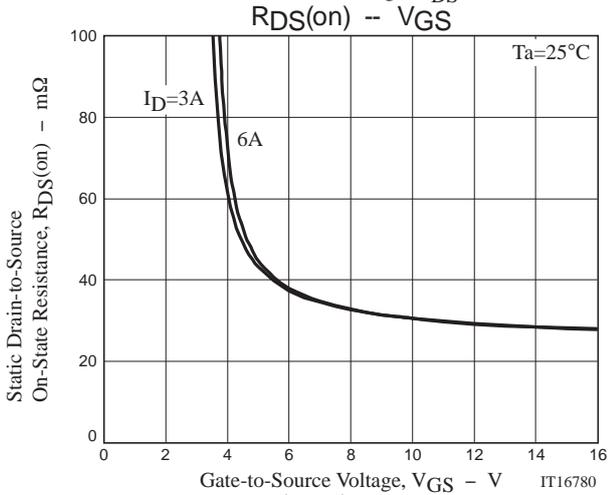
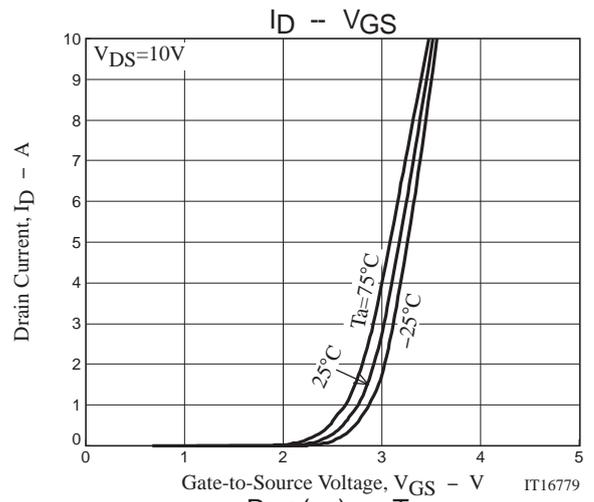
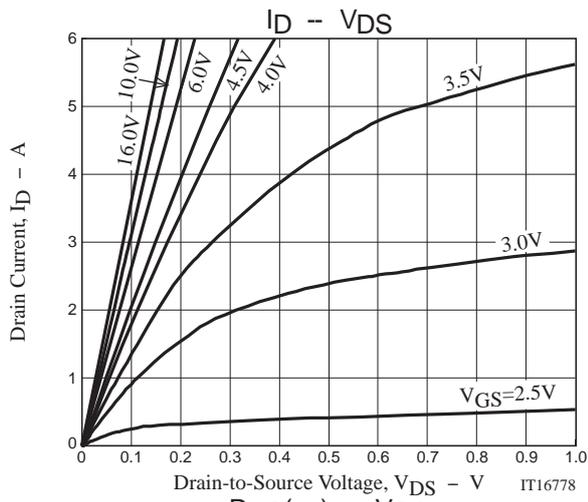
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	35			V
Zero-Gate Voltage Drain Current	IDSS	VDS=35V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	1.7		2.6	V
Forward Transfer Admittance	yfs	VDS=10V, ID=6A		3		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=6A, VGS=10V		30	39	mΩ
	RDS(on)2	ID=3A, VGS=4.5V		50	70	mΩ
Input Capacitance	Ciss	VDS=20V, f=1MHz		470		pF
Output Capacitance	Coss			70		pF
Reverse Transfer Capacitance	Crss			35		pF
Turn-ON Delay Time	td(on)			8		ns
Rise Time	tr	See specified Test Circuit.		34		ns
Turn-OFF Delay Time	td(off)			31		ns
Fall Time	tf			30		ns
Total Gate Charge	Qg			10		nC
Gate-to-Source Charge	Qgs	VDS=20V, VGS=10V, ID=6A		2		nC
Gate-to-Drain "Miller" Charge	Qgd			2		nC
Diode Forward Voltage	VSD		IS=6A, VGS=0V		0.84	1.2

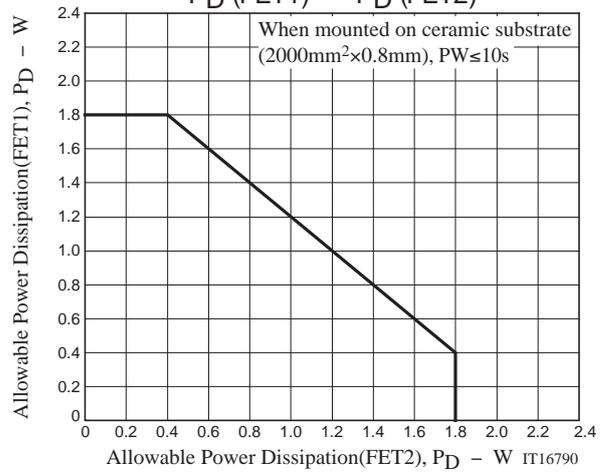
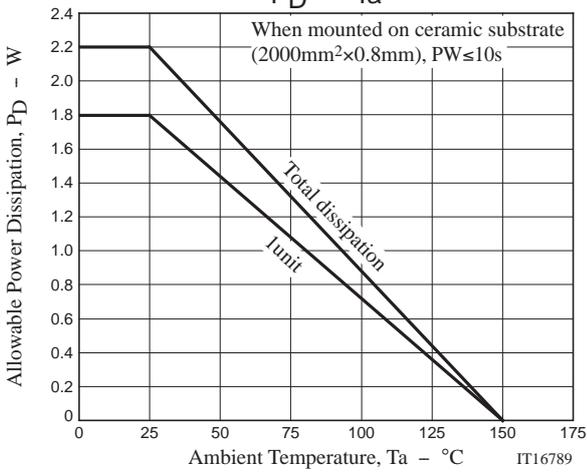
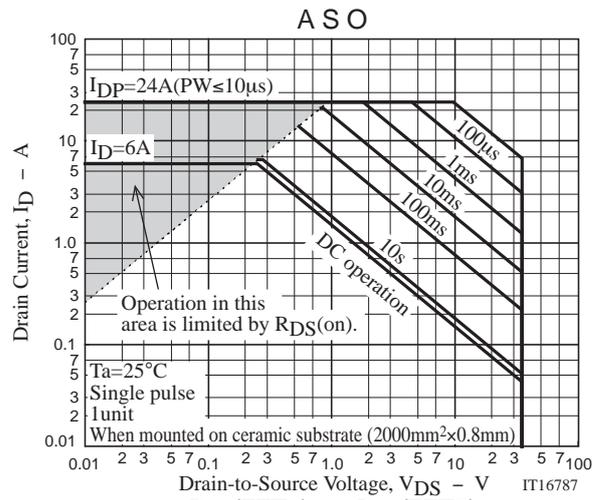
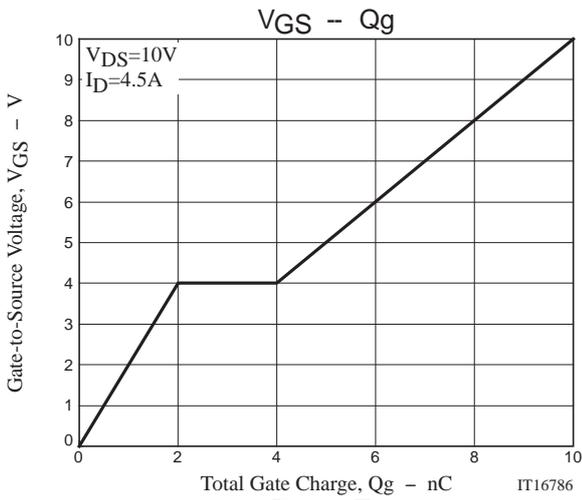
## Switching Time Test Circuit



## Ordering Information

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





**Taping Specification**

FW217A-TL-2W

**1. Packing Format**

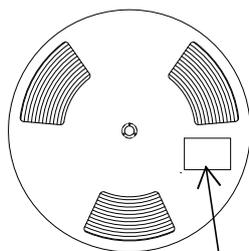
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX W206-112	Outer BOX W207-124
SOIC8	B202-101	2,500	12,500	25,000	5 reels contained Dimensions :mm(external) 340×95×340	2 inner boxes contained Dimensions :mm(external) 360×210×375

**Packing method**

**Reel label, Inner box label (unit: mm)**

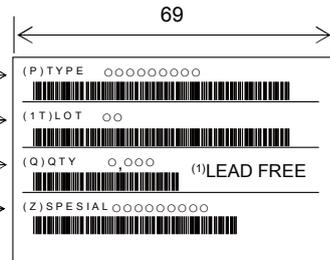
**Outer box label**

It is a label at the time of factory shipments.  
 The form of a label may change in physical distribution process.



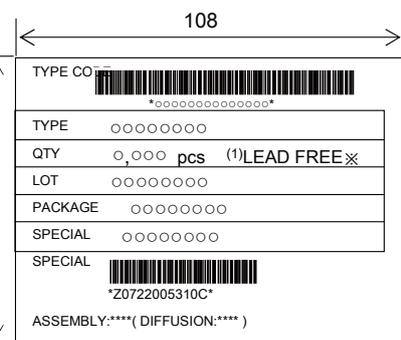
Type No. →  
 LOT No. →  
 Quantity →  
 Origin →

Reel label



**NOTE(1)**

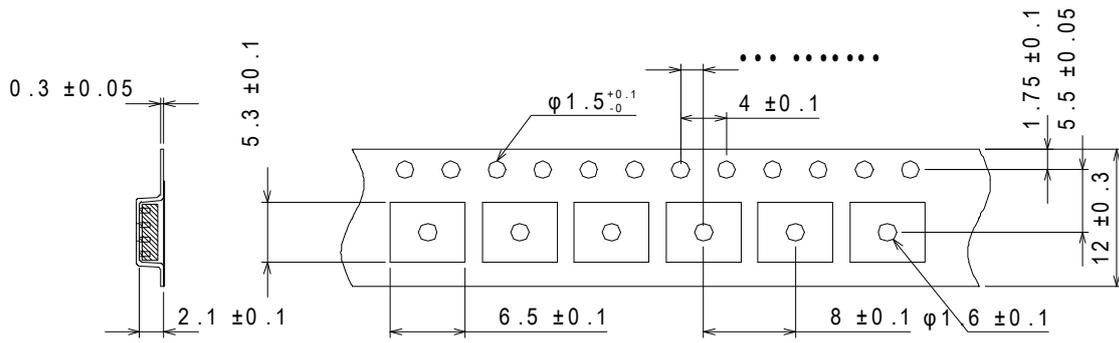
The LEAD FREE 4 description shows that it is complete lead free.



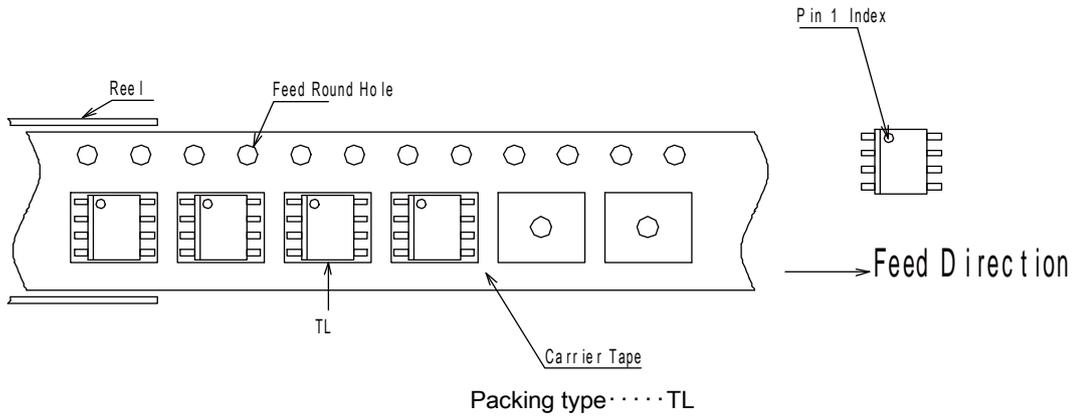
Label	JEITA Phase
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

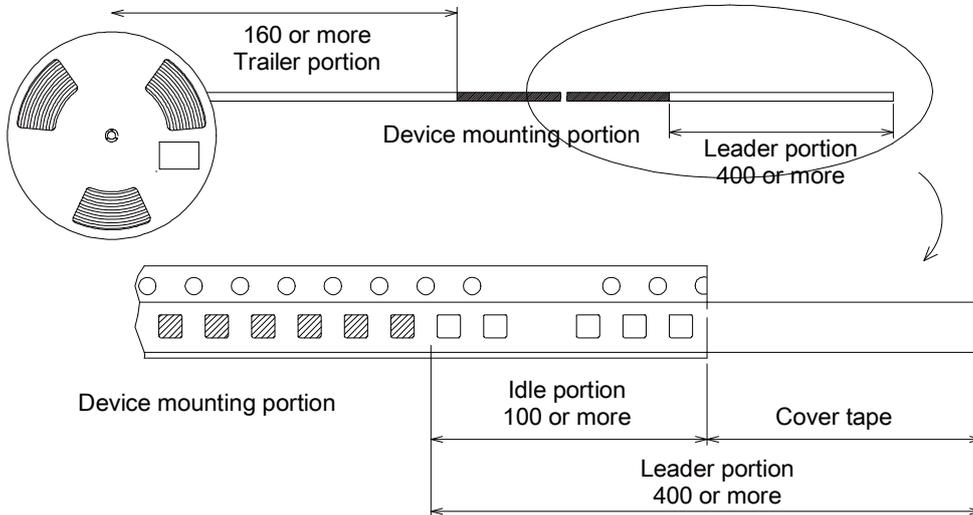
2-1. Carrier tape size (unit: mm)



2-2. Device placement direction



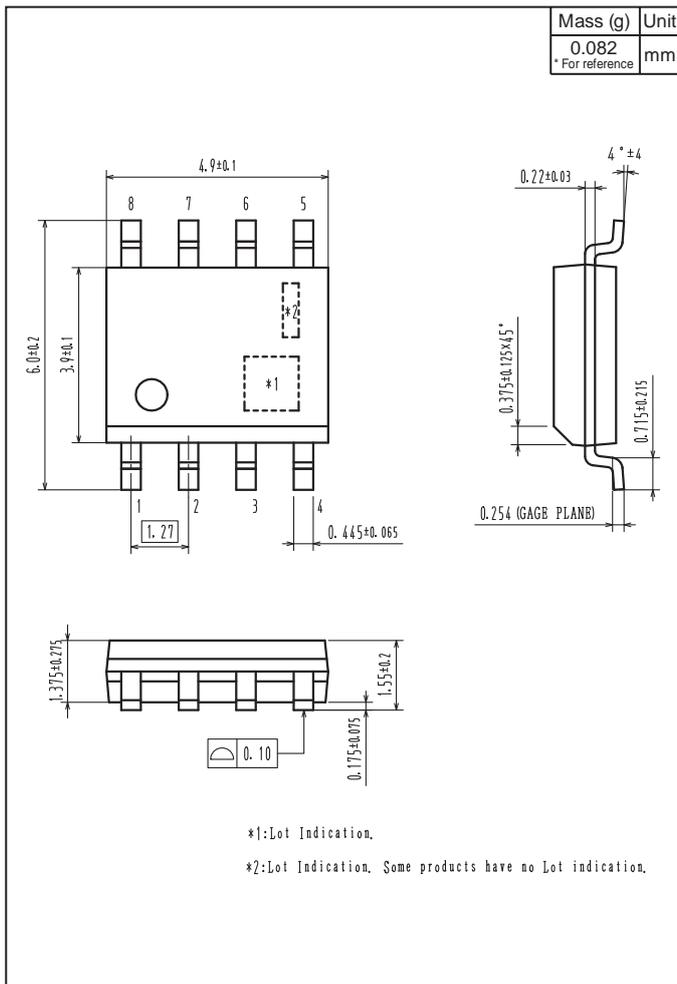
2-3. Leader portion and trailer portion (unit: mm)



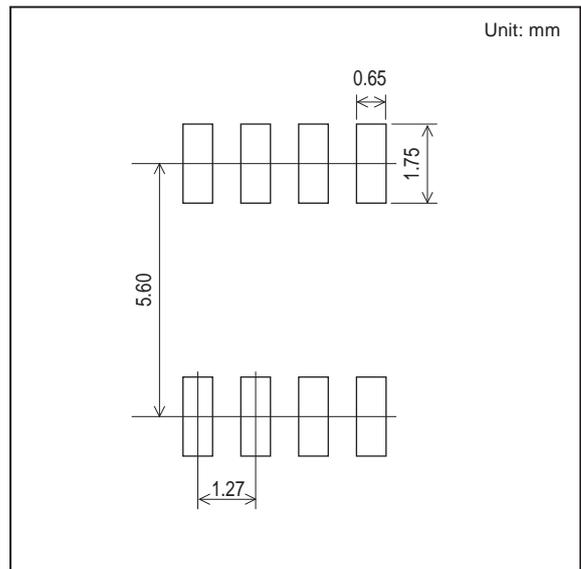
# FW217A

## 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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