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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





FW344A

Power MOSFET

30V, 4.5A, 64mΩ, -30V, -3.5A, 102mΩ, Complementary Dual SOIC8

ON Semiconductor®

<http://onsemi.com>

Features

- ON-resistance Nch : $R_{DS(on)1}=49m\Omega$ (typ.)
Pch : $R_{DS(on)1}=78m\Omega$ (typ.)
- 4V drive
- Halogen free compliance
- Nch+Pch MOSFET

Specifications

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

Parameter	Symbol	Conditions	N-channel	P-channel	Unit
Drain-to-Source Voltage	V_{DSS}		30	-30	V
Gate-to-Source Voltage	V_{GSS}		± 20	± 20	V
Drain Current (DC)	I_D		4.5	-3.5	A
Drain Current ($PW \leq 10\mu s$)	I_{DP}	Duty cycle $\leq 1\%$	5	-4	A
Drain Current ($PW \leq 10\mu s$)	I_{DP}	Duty cycle $\leq 1\%$	18	-14	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate (2000mm ² ×0.8mm) 1unit	1.4		W
Total Dissipation	P_T	When mounted on ceramic substrate (2000mm ² ×0.8mm)	1.7		W
Channel Temperature	T_{ch}		150		°C
Storage Temperature	T_{stg}		-55 to +150		°C

This product is designed to "ESD immunity < 200V**", so please take care when handling.

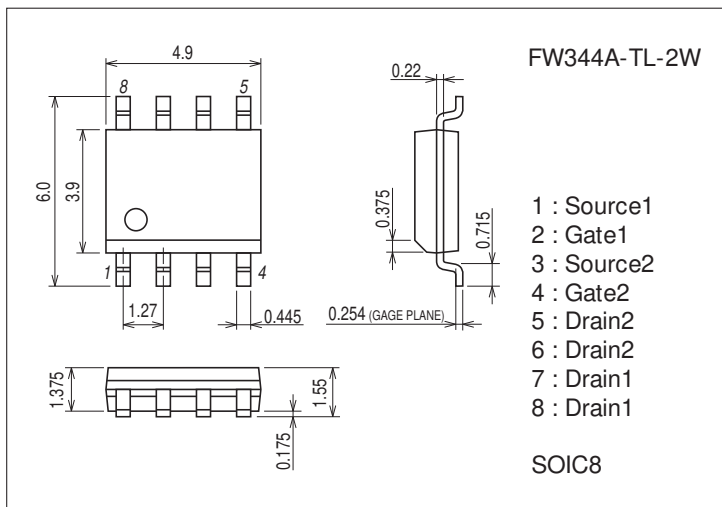
* Machine Model

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)

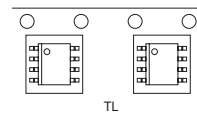
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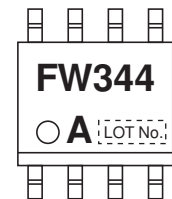
Product & Package Information

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

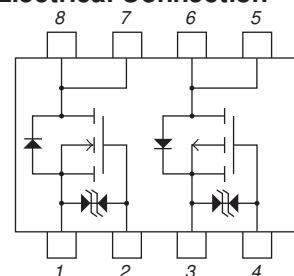
Packing Type : TL



Marking



Electrical Connection



FW344A

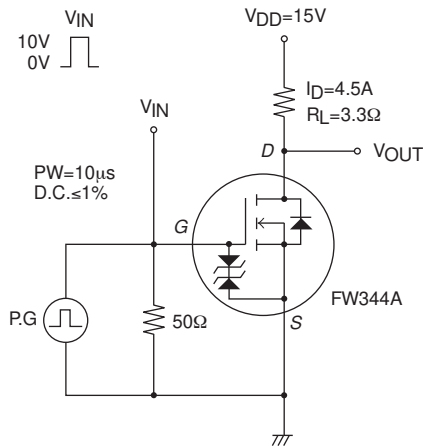
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[N-channel]						
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	30			V
Zero-Gate Voltage Drain Current	IDSS	VDS=30V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	1.2		2.6	V
Forward Transfer Admittance	yfs	VDS=10V, ID=4.5A		2.6		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=4.5A, VGS=10V		49	64	mΩ
	RDS(on)2	ID=2A, VGS=4.5V		80	112	mΩ
	RDS(on)3	ID=2A, VGS=4V		100	140	mΩ
Input Capacitance	Ciss	VDS=10V, f=1MHz		280		pF
Output Capacitance	Coss			60		pF
Reverse Transfer Capacitance	Crss			30		pF
Turn-ON Delay Time	td(on)		See specified Test Circuit.		6	
Rise Time	tr			21		ns
Turn-OFF Delay Time	td(off)			20		ns
Fall Time	tf			10		ns
Total Gate Charge	Qg	VDS=10V, VGS=10V, ID=4.5A			5.6	
Gate-to-Source Charge	Qgs			1.2		nC
Gate-to-Drain "Miller" Charge	Qgd			0.8		nC
Diode Forward Voltage	VSD		IS=4.5A, VGS=0V		0.85	1.2
[P-channel]						
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=-1mA, VGS=0V	-30			V
Zero-Gate Voltage Drain Current	IDSS	VDS=-30V, VGS=0V			-1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=-10V, ID=-1mA	-1.2		-2.3	V
Forward Transfer Admittance	yfs	VDS=-10V, ID=-3.5A		3.9		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=-3.5A, VGS=-10V		78	102	mΩ
	RDS(on)2	ID=-2A, VGS=-4.5V		125	175	mΩ
	RDS(on)3	ID=-2A, VGS=-4V		145	205	mΩ
Input Capacitance	Ciss	VDS=-10V, f=1MHz		250		pF
Output Capacitance	Coss			65		pF
Reverse Transfer Capacitance	Crss			46		pF
Turn-ON Delay Time	td(on)		See specified Test Circuit.		5.4	
Rise Time	tr			34		ns
Turn-OFF Delay Time	td(off)			28		ns
Fall Time	tf			24		ns
Total Gate Charge	Qg	VDS=-10V, VGS=-10V, ID=-3.5A			5	
Gate-to-Source Charge	Qgs			1		nC
Gate-to-Drain "Miller" Charge	Qgd			1.2		nC
Diode Forward Voltage	VSD		IS=-3.5A, VGS=0V		-0.88	-1.5

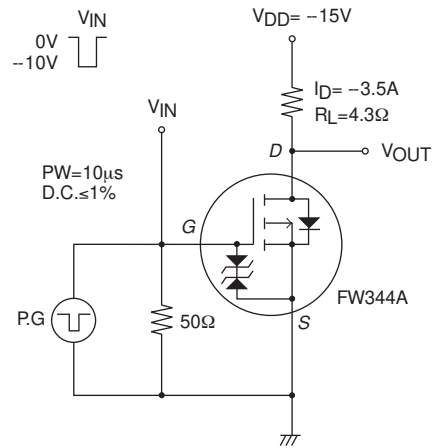
FW344A

Switching Time Test Circuit

[N-channel]

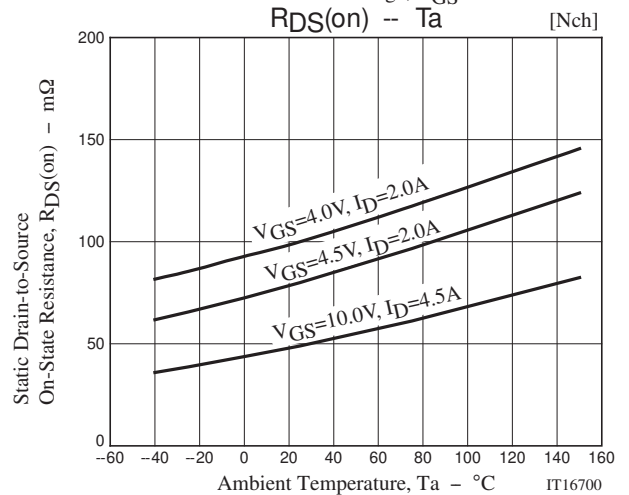
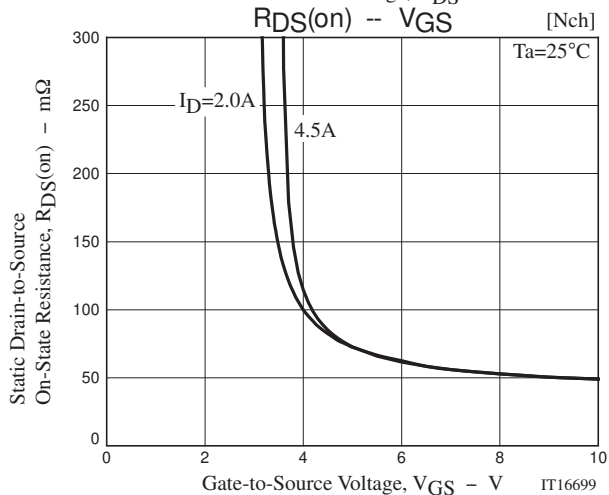
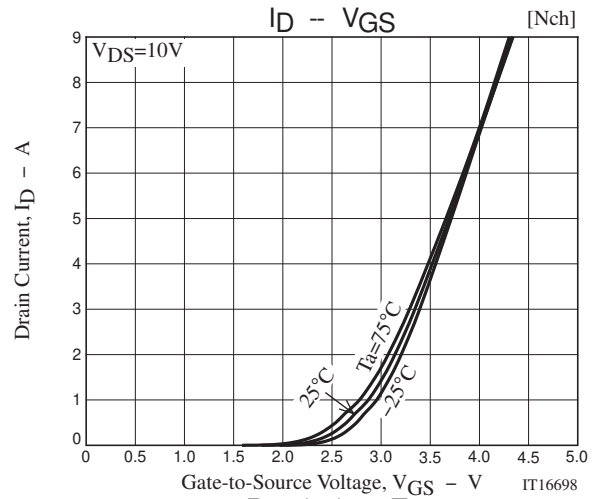
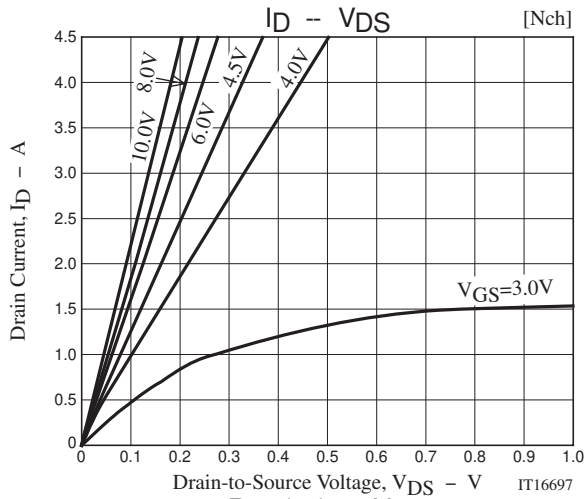


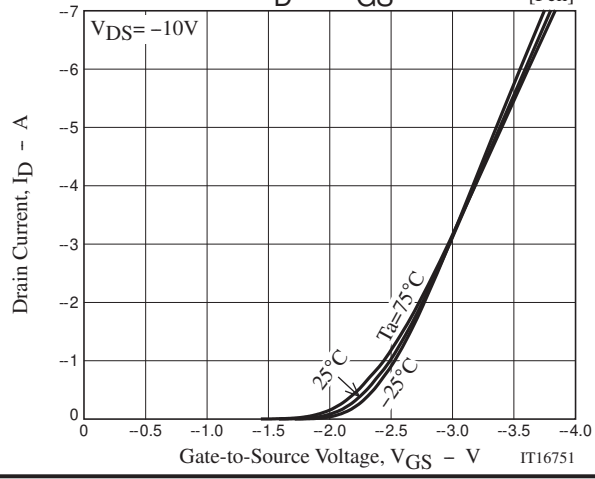
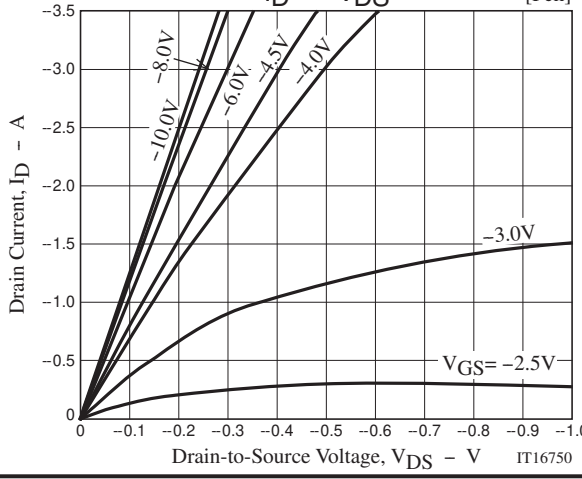
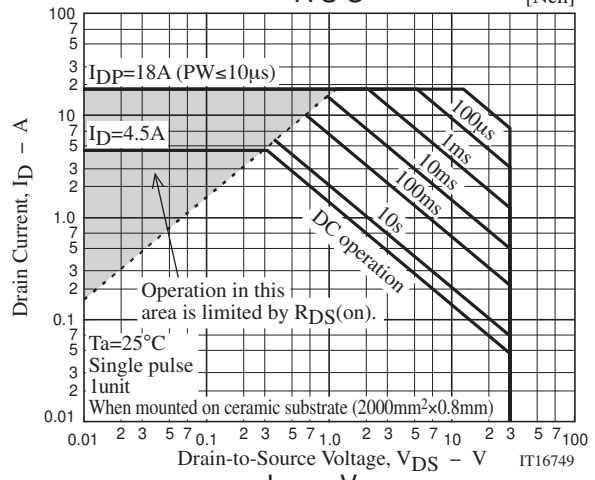
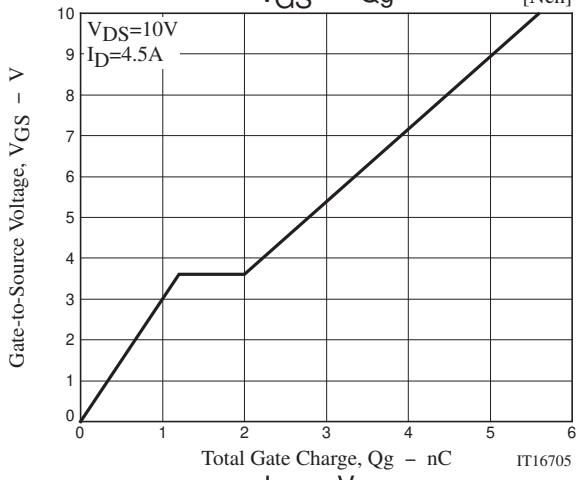
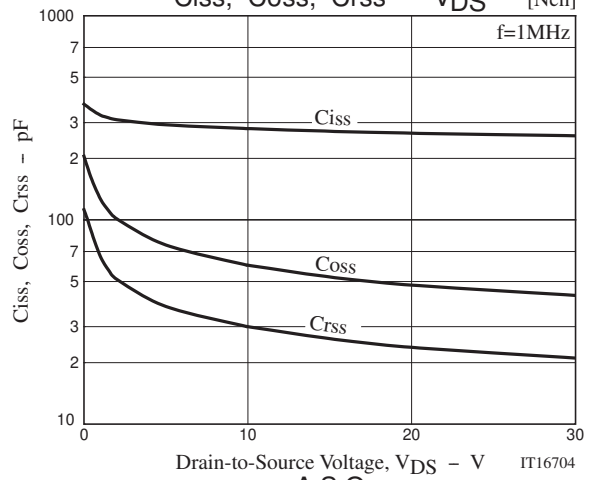
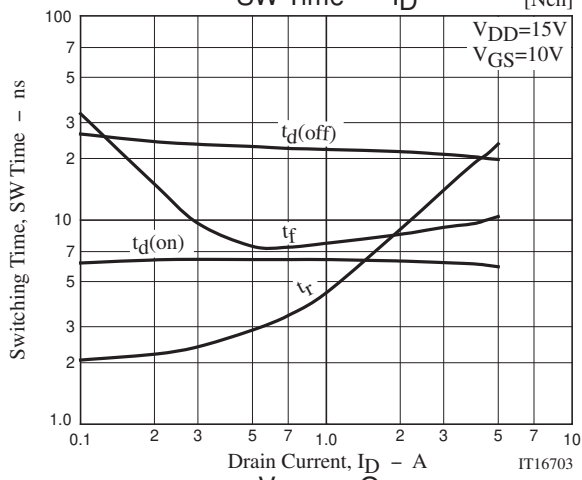
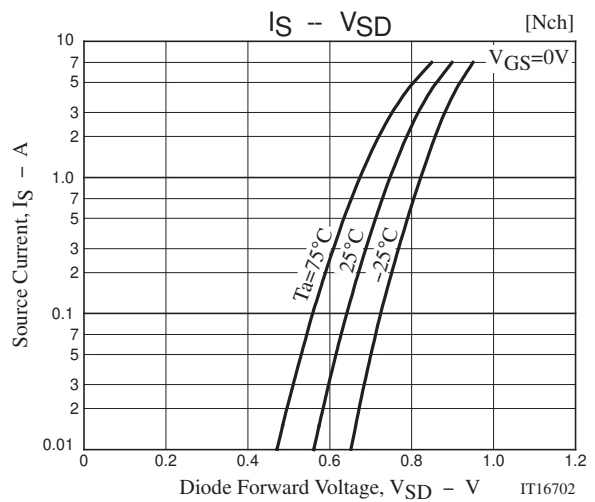
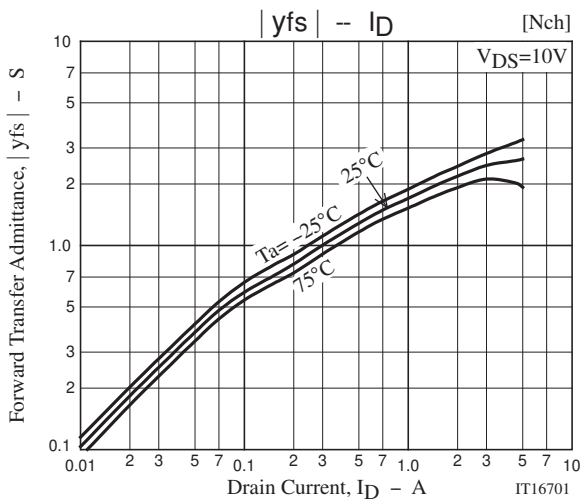
[P-channel]



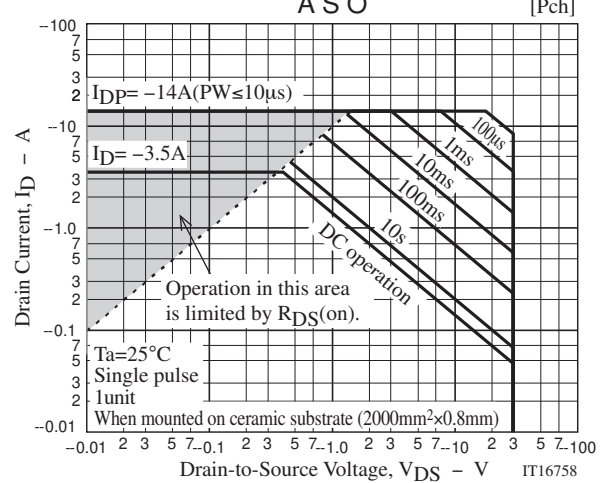
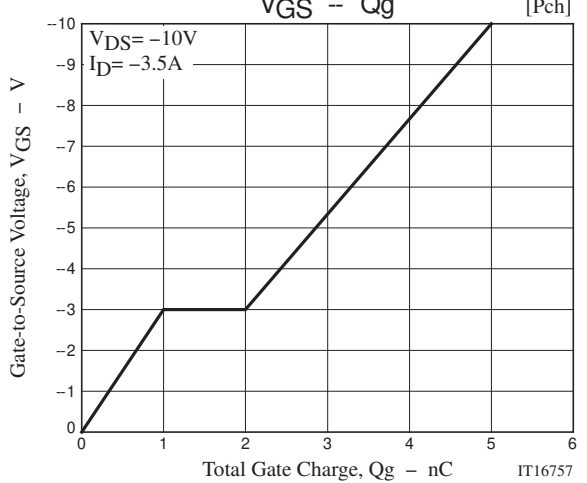
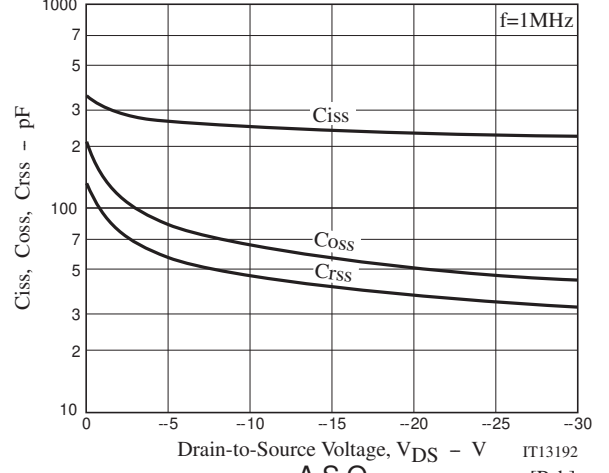
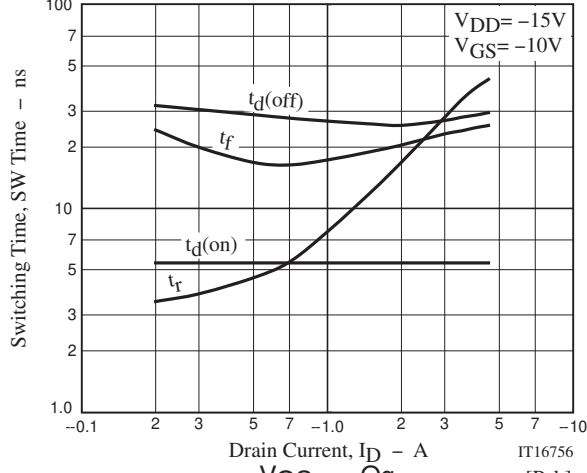
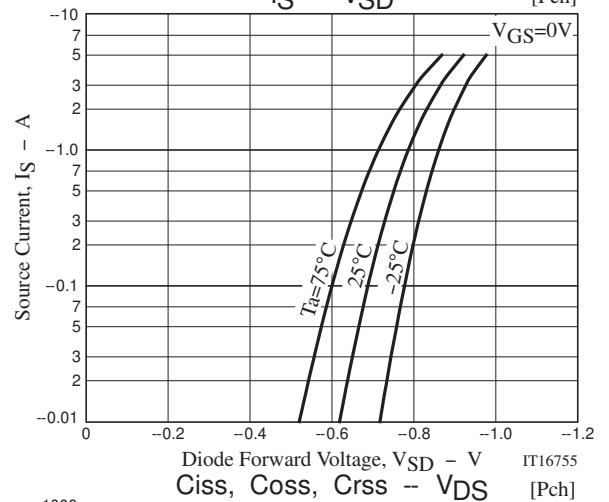
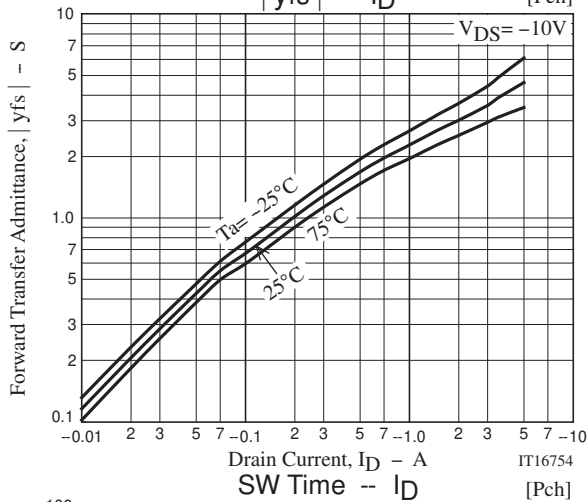
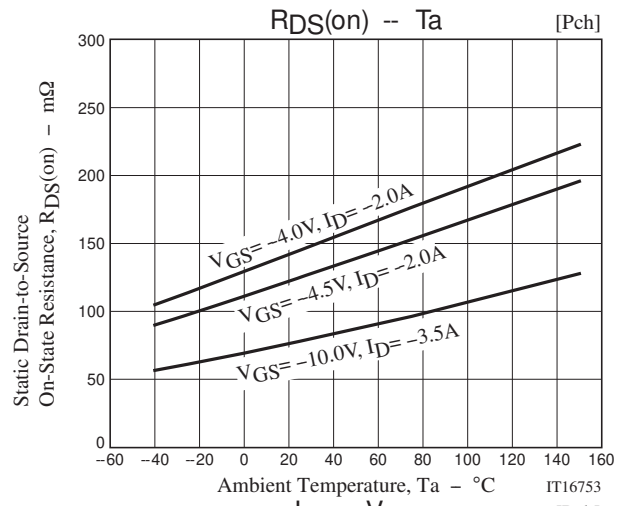
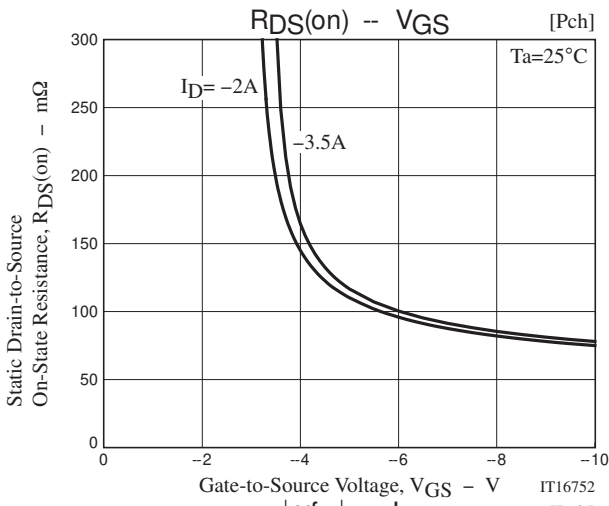
Ordering Information

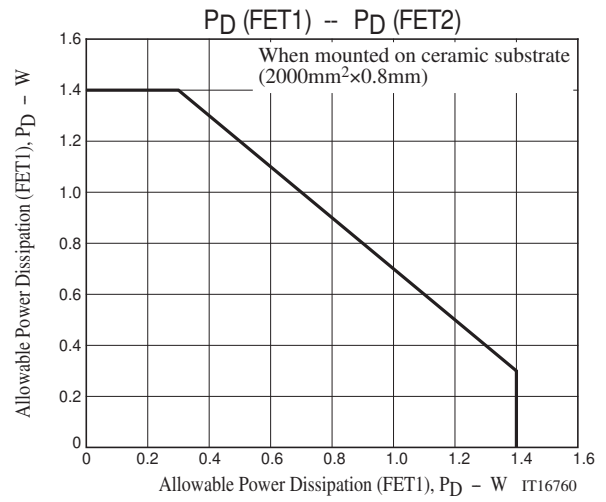
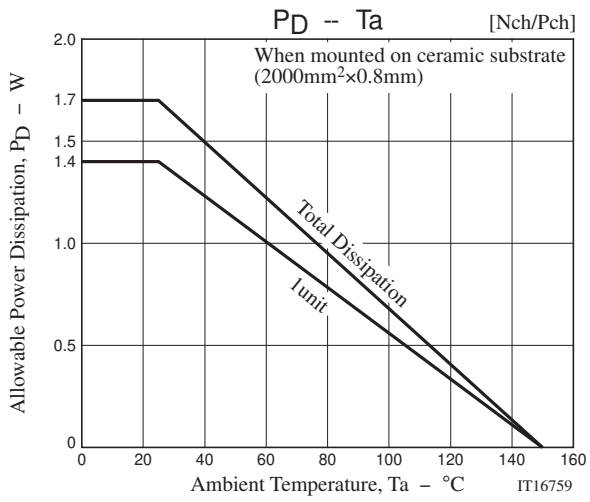
Device	Package	Shipping	memo
FW344A-TL-2W	SOIC8	2,500pcs./reel	Pb Free and Halogen Free





FW344A





Taping Specification

FW344A-TL-2W

1. Packing Format

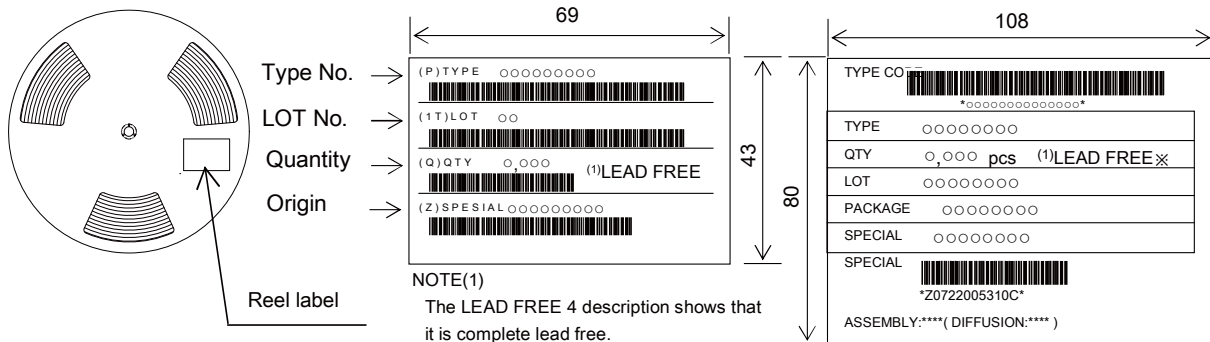
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX W206-112	Outer BOX W207-124
SOIC8	B202-101	2,500	12,500	25,000	5 reels contained Dimensions :mm(external) 340×95×340	2 inner boxes contained Dimensions :mm(external) 360×210×375

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.

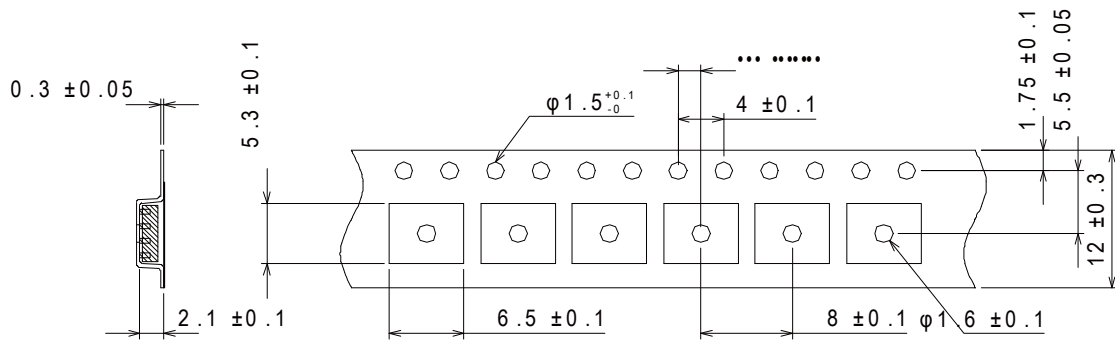


NOTE(1)
The LEAD FREE 4 description shows that it is complete lead free.

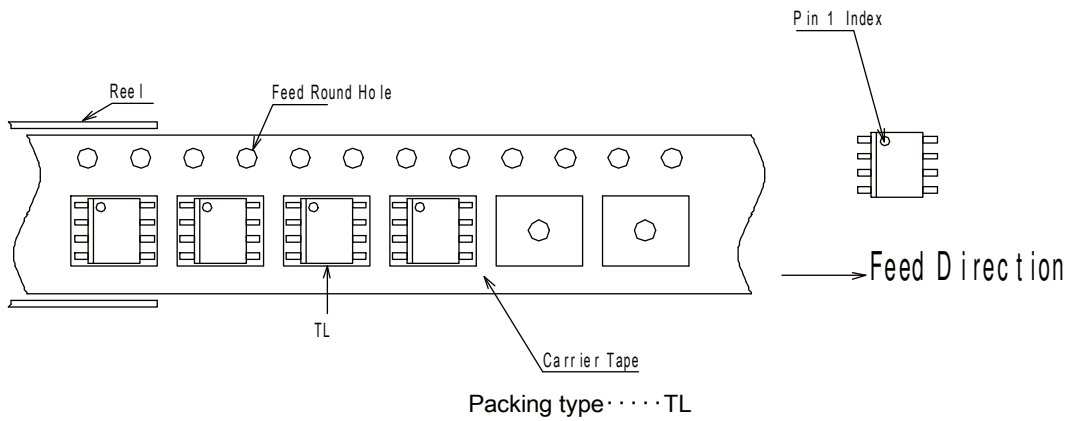
Label	JEITA Phase
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

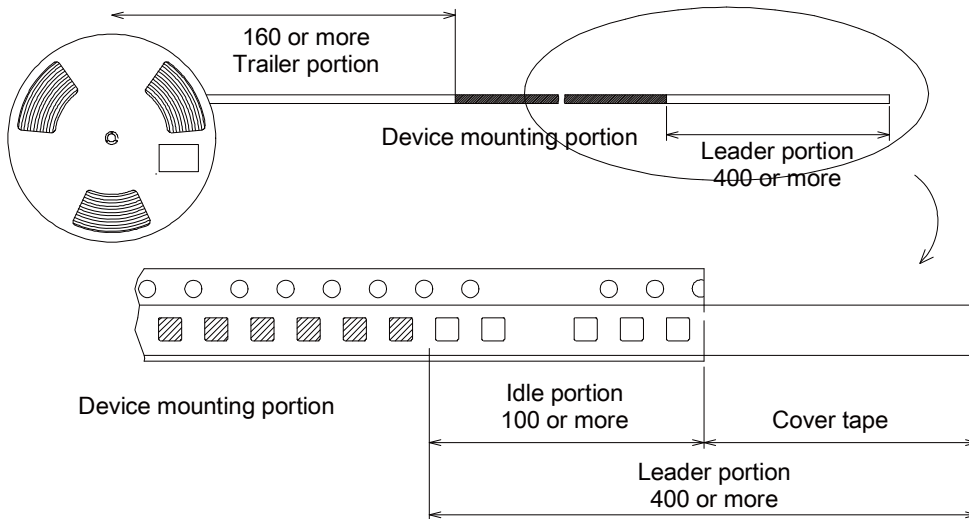
2-1. Carrier tape size (unit: mm)



2-2. Device placement direction



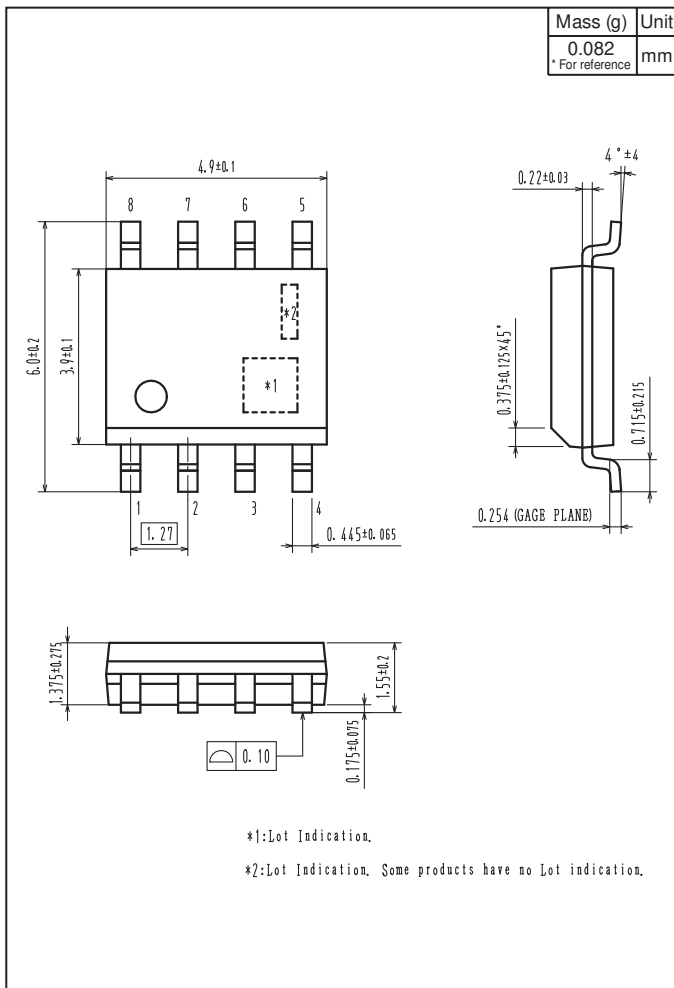
2-3. Leader portion and trailer portion (unit: mm)



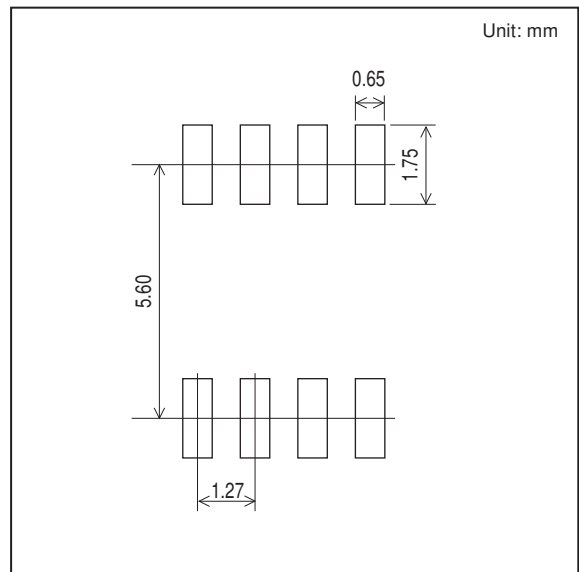
FW344A

Outline Drawing

FW344A-TL-2W



Land Pattern Example



Note on usage : Since the FW344A is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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