



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

ECH8310 — P-Channel Silicon MOSFET — General-Purpose Switching Device Applications

Features

- 4V drive
- Halogen free compliance
- Protection diode in

Specifications

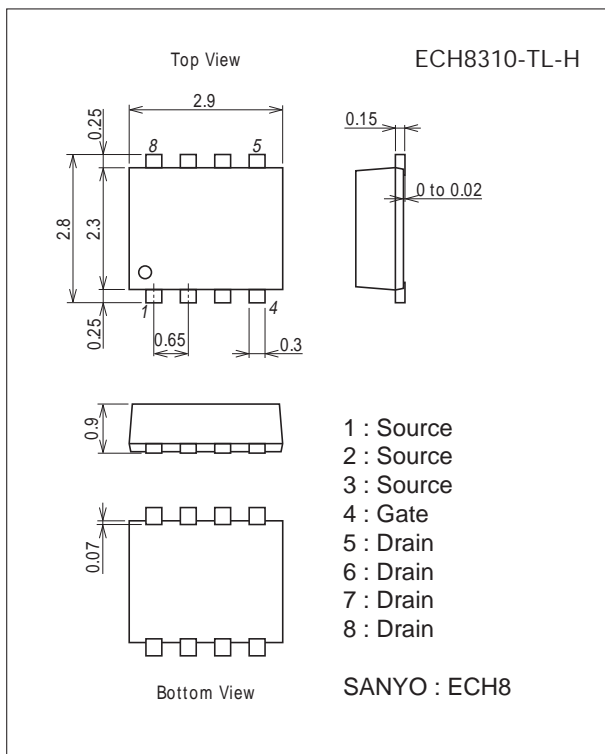
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-30	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-9	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-60	A
Allowable Power Dissipation	P _D	When mounted on ceramic substrate (900mm ² ×0.8mm)	1.5	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Package Dimensions

unit : mm (typ)

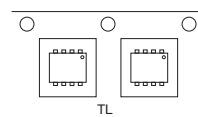
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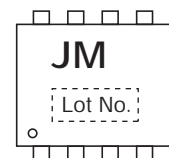
Product & Package Information

- Package : ECH8
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

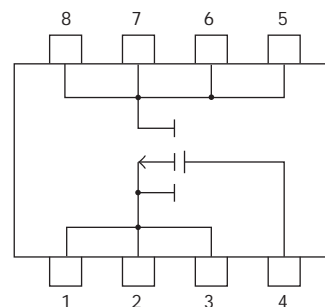
Packing Type : TL



Marking



Electrical Connection

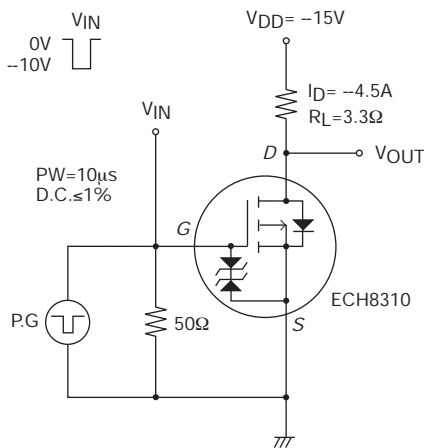


ECH8310

Electrical Characteristics at Ta=25°C

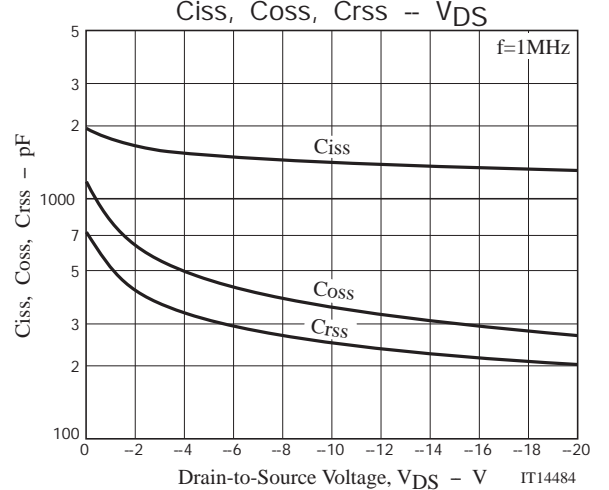
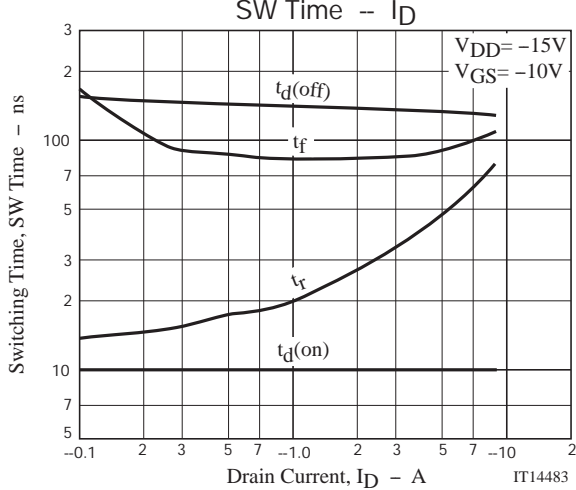
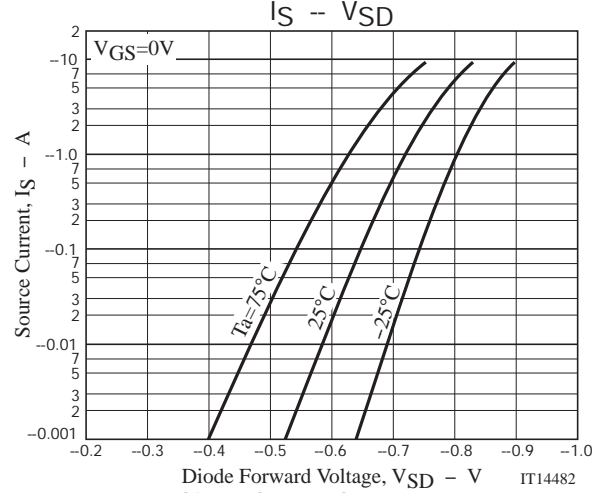
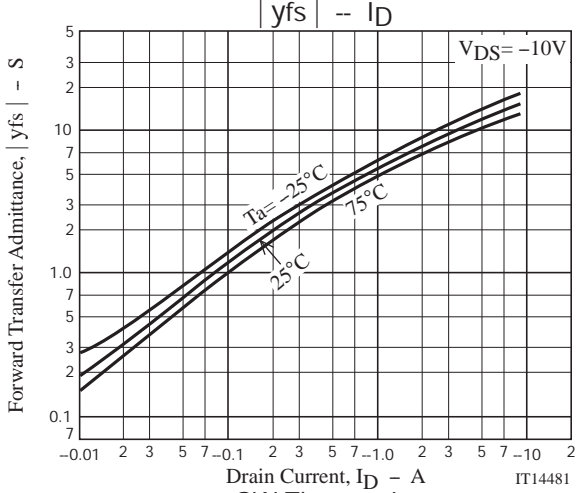
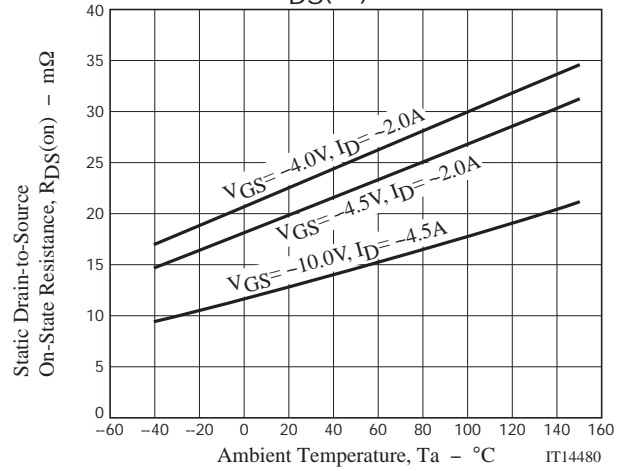
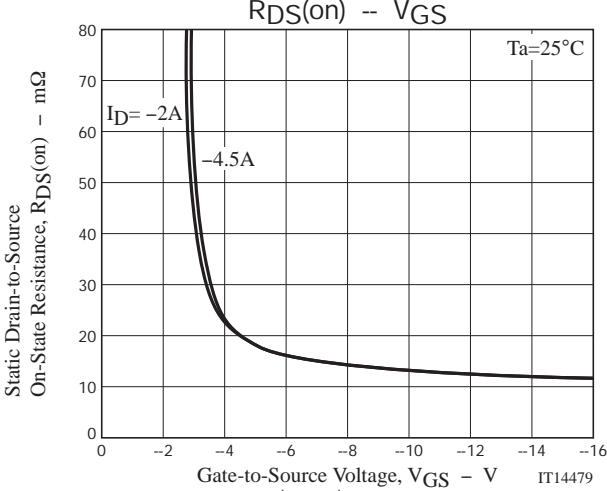
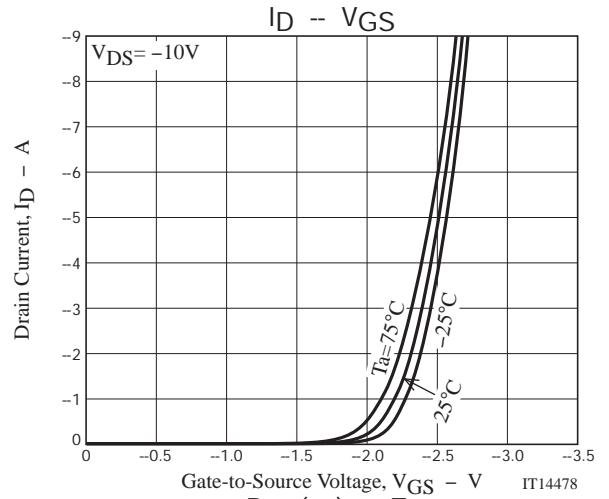
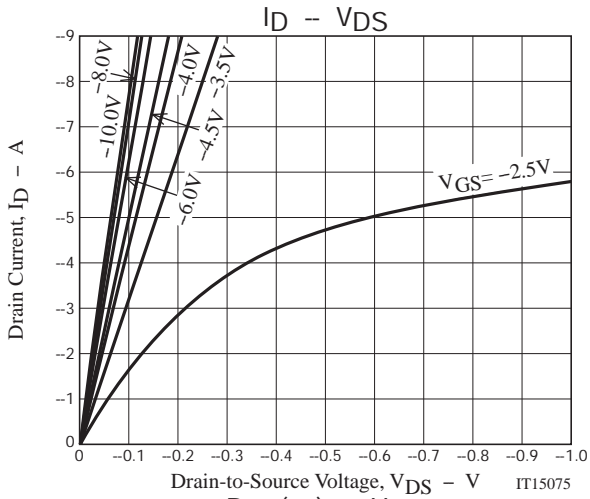
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =-1mA, V _{GS} =0V	-30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-1mA	-1.2		-2.6	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-4.5A		12		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-4.5A, V _{GS} =-10V	9	13	17	mΩ
	R _{DS(on)2}	I _D =-2A, V _{GS} =-4.5V	12	20	28	mΩ
	R _{DS(on)3}	I _D =-2A, V _{GS} =-4.0V	13.5	23	32.5	mΩ
Input Capacitance	C _{iss}	V _{DS} =-10V, f=1MHz		1400		pF
Output Capacitance	C _{oss}			350		pF
Reverse Transfer Capacitance	C _{rss}			250		pF
Turn-ON Delay Time	t _{d(on)}		See specified Test Circuit.		10	
Rise Time	t _r			45		ns
Turn-OFF Delay Time	t _{d(off)}			134		ns
Fall Time	t _f			87		ns
Total Gate Charge	Q _g	V _{DS} =-15V, V _{GS} =-10V, I _D =-9A			28	
Gate-to-Source Charge	Q _{gs}			4		nC
Gate-to-Drain "Miller" Charge	Q _{gd}			6		nC
Diode Forward Voltage	V _{SD}	I _S =-9A, V _{GS} =0V		-0.8	-1.2	V

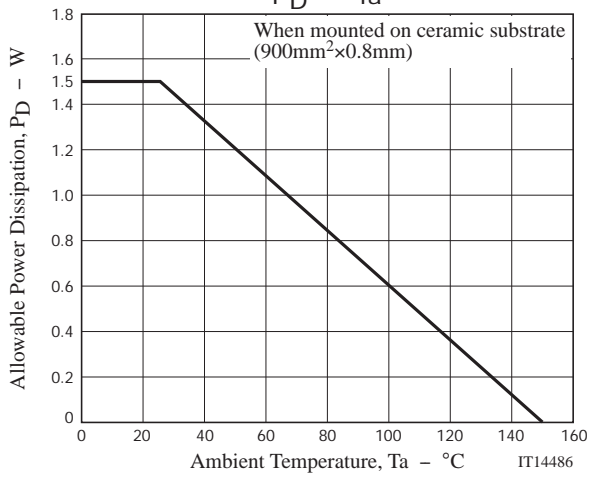
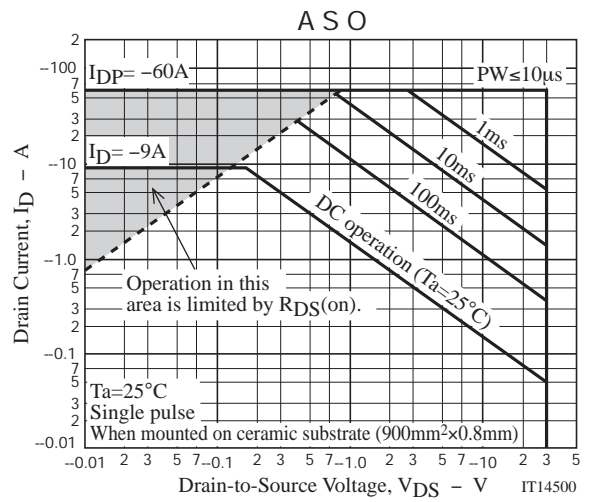
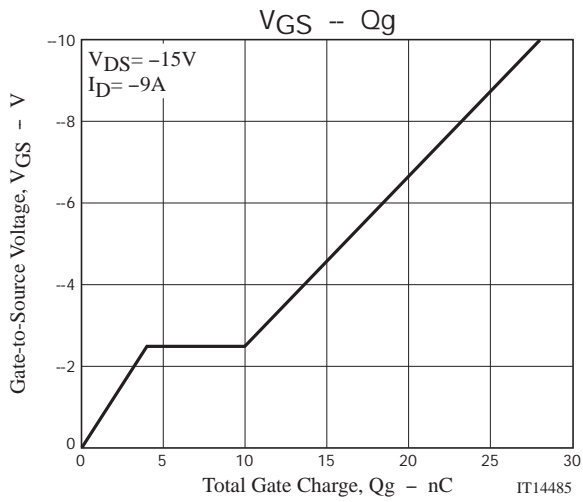
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
ECH8310-TL-H	ECH8	3,000pcs./reel	Pb Free and Halogen Free





Embossed Taping Specification

ECH8310-TL-H

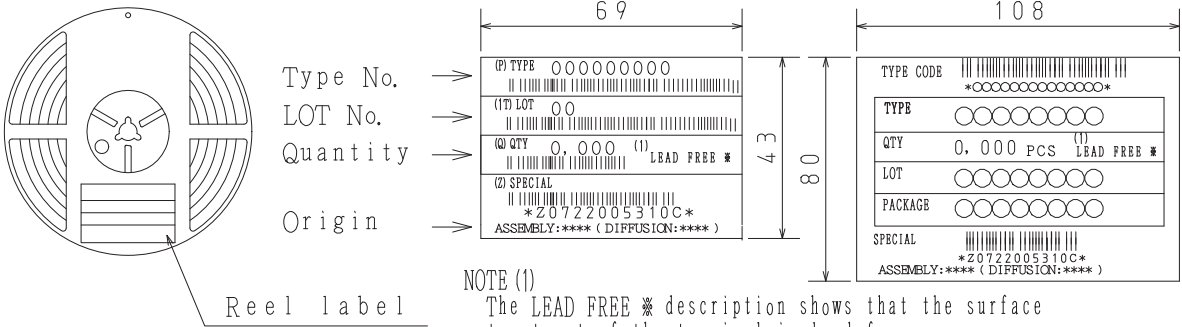
1. Packing Format

Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
ECH8	CPH6	3,000	15,000	90,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

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.

Packing method



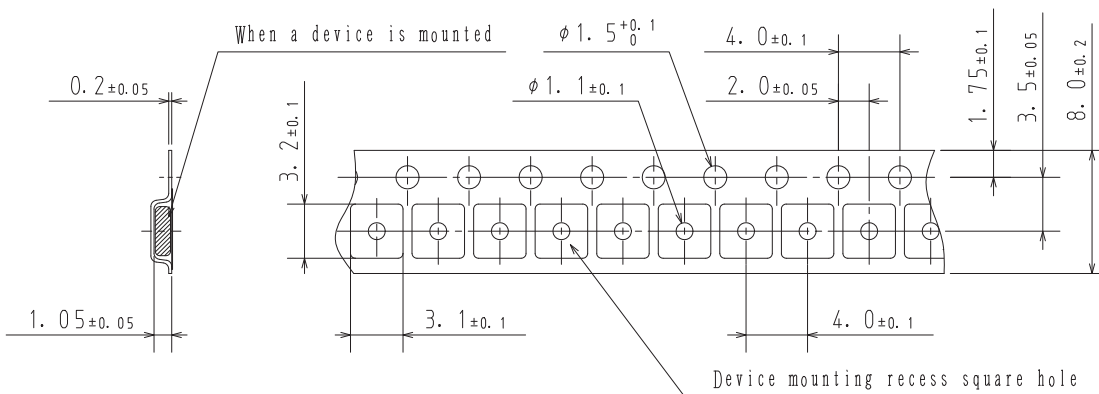
NOTE (1)

The LEAD FREE * description shows that the surface treatment of the terminal is lead free.

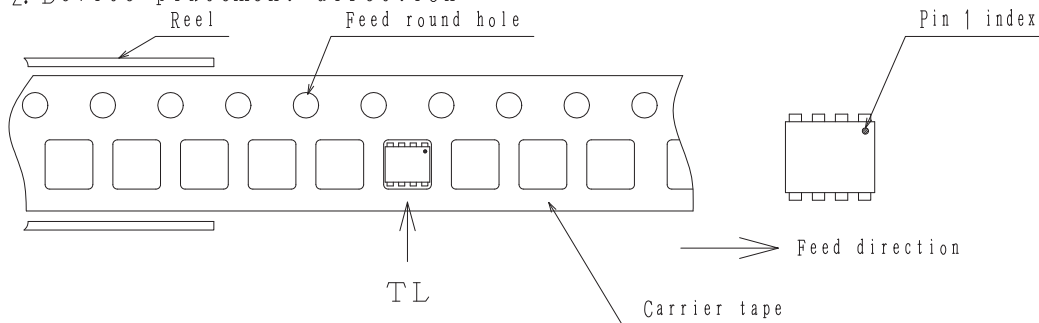
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction



Those with pin 1 index on the feed hole side.....TL

ECH8310

Outline Drawing ECH8310-TL-H



Land Pattern Example



Note on usage : Since the ECH8310 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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