

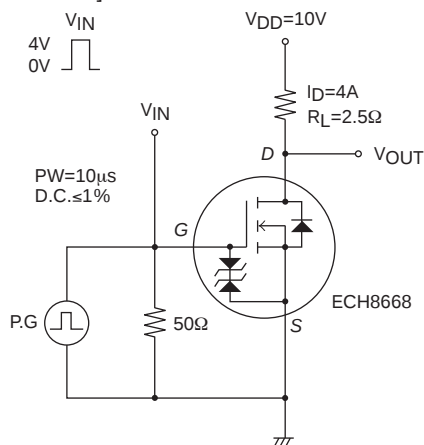
ECH8668

Electrical Characteristics at Ta=25°C

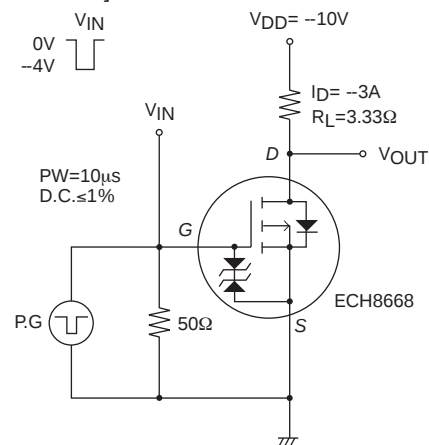
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[N-channel]						
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	20			V
Zero-Gate Voltage Drain Current	IDSS	VDS=20V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±8V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	0.5		1.3	V
Forward Transfer Admittance	yfs	VDS=10V, ID=4A	4.2	7		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=4A, VGS=4.5V		13	17	mΩ
	RDS(on)2	ID=2A, VGS=2.5V		18	26	mΩ
	RDS(on)3	ID=0.5A, VGS=1.8V		30	48	mΩ
Input Capacitance	Ciss	VDS=10V, f=1MHz		1060		pF
Output Capacitance	Coss			180		pF
Reverse Transfer Capacitance	Crss			135		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit.		17.5		ns
Rise Time	tr			120		ns
Turn-OFF Delay Time	td(off)			68		ns
Fall Time	tf			80		ns
Total Gate Charge	Qg	VDS=10V, VGS=4.5V, ID=7.5A		10.8		nC
Gate-to-Source Charge	Qgs			2.1		nC
Gate-to-Drain "Miller" Charge	Qgd			2.9		nC
Diode Forward Voltage	VSD	IS=7.5A, VGS=0V		0.74	1.2	V
[P-channel]						
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=-1mA, VGS=0V	-20			V
Zero-Gate Voltage Drain Current	IDSS	VDS=-20V, VGS=0V			-1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±8V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=-10V, ID=-1mA	-0.4		-1.3	V
Forward Transfer Admittance	yfs	VDS=-10V, ID=-3A	4.9	8.3		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=-3A, VGS=-4.5V		29	38	mΩ
	RDS(on)2	ID=-1.5A, VGS=-2.5V		41	58	mΩ
	RDS(on)3	ID=-0.5A, VGS=-1.8V		64	98	mΩ
Input Capacitance	Ciss	VDS=-10V, f=1MHz		960		pF
Output Capacitance	Coss			180		pF
Reverse Transfer Capacitance	Crss			140		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit.		14		ns
Rise Time	tr			55		ns
Turn-OFF Delay Time	td(off)			92		ns
Fall Time	tf			68		ns
Total Gate Charge	Qg	VDS=-10V, VGS=-4.5V, ID=-5A		11		nC
Gate-to-Source Charge	Qgs			2.0		nC
Gate-to-Drain "Miller" Charge	Qgd			2.8		nC
Diode Forward Voltage	VSD	IS=-5A, VGS=0V		-0.82	-1.2	V

Switching Time Test Circuit

[N-channel]

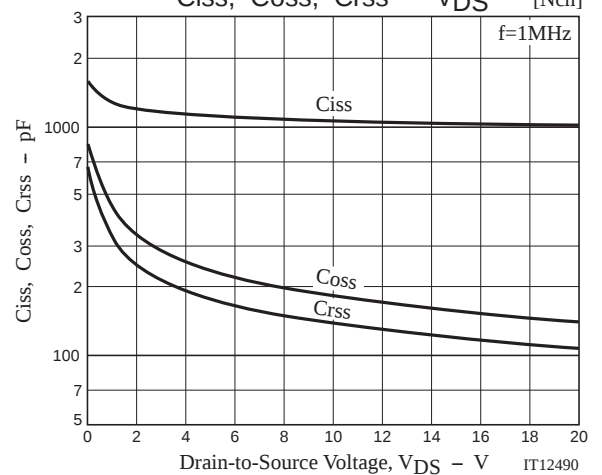
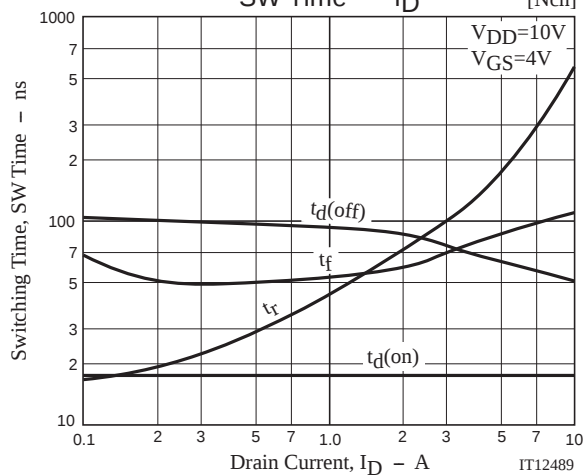
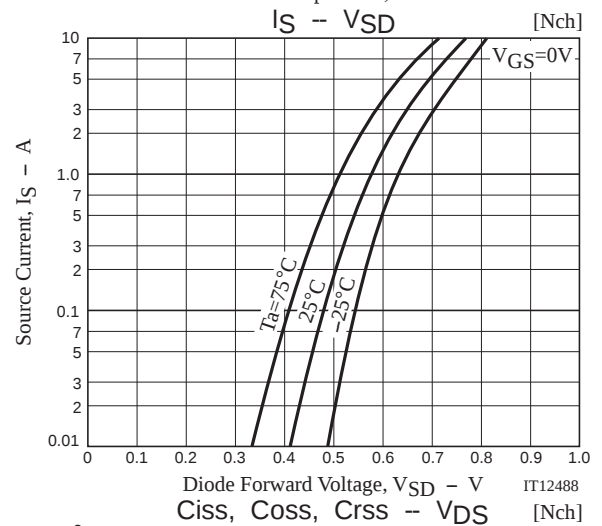
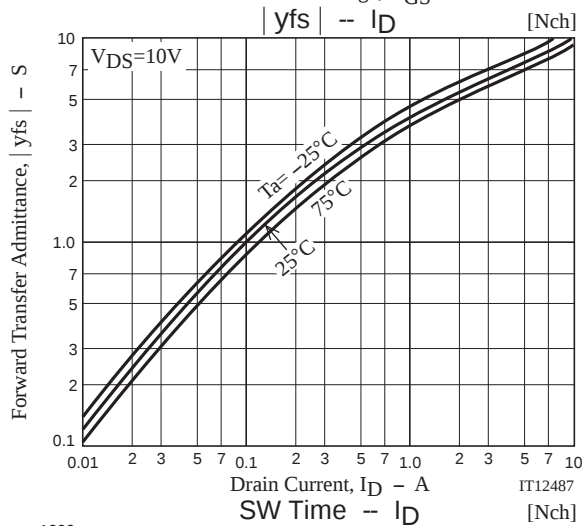
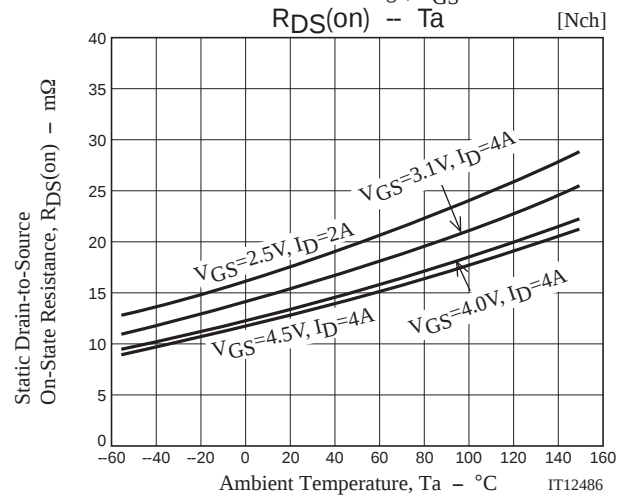
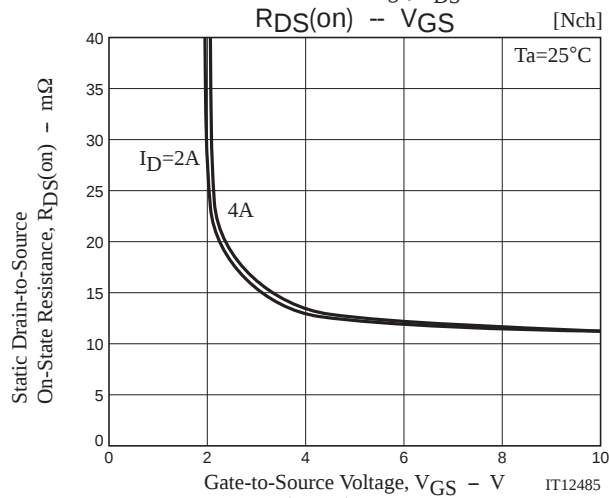
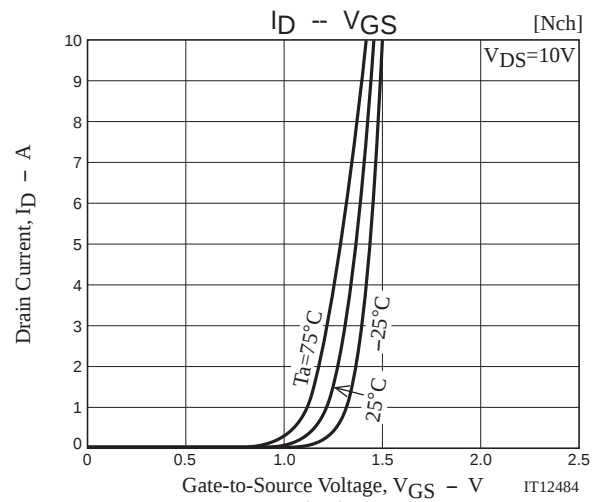
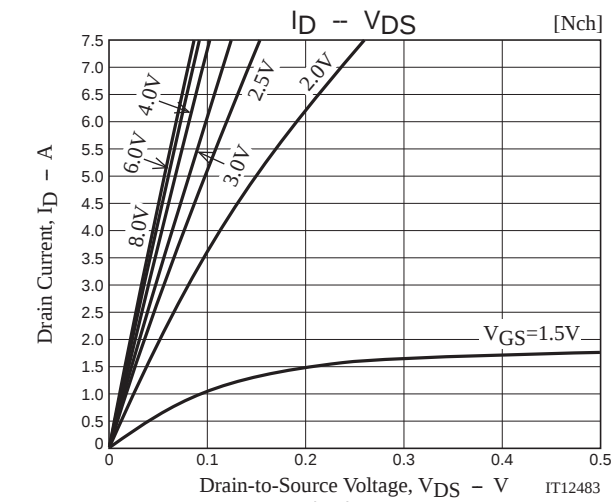


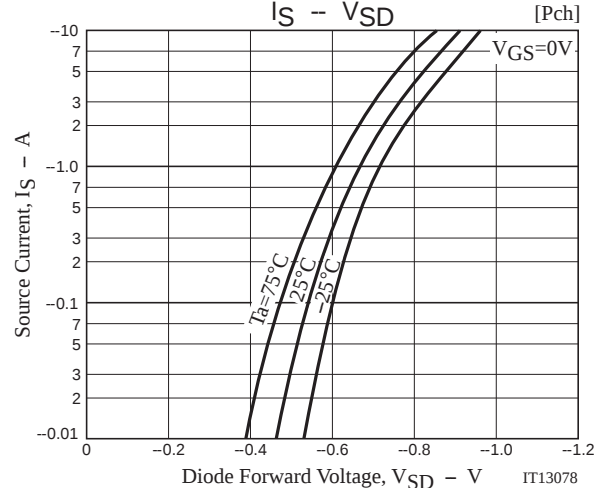
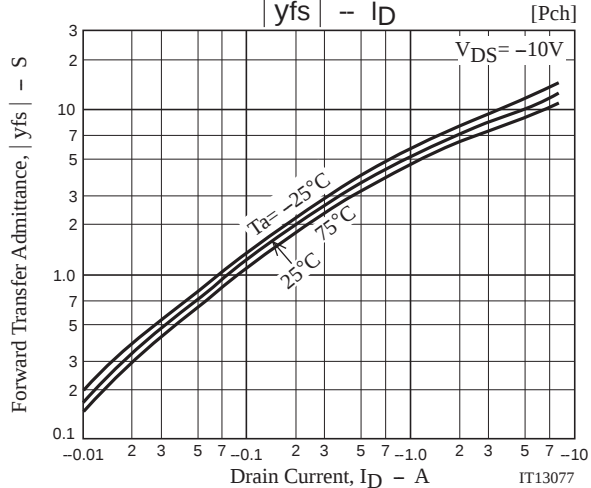
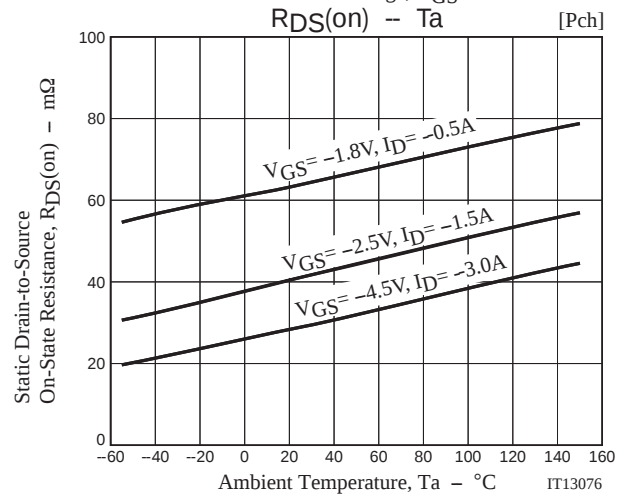
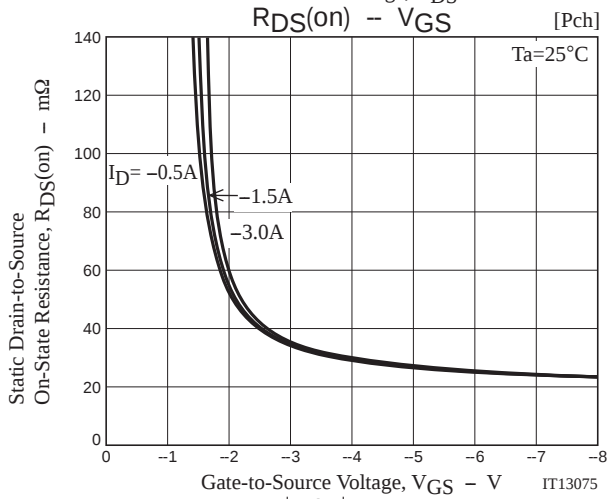
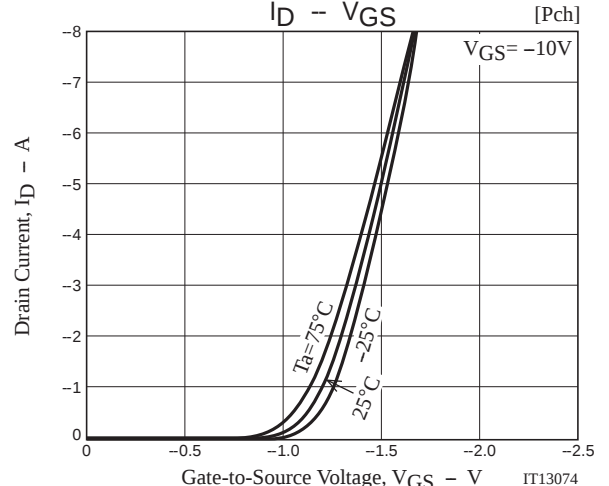
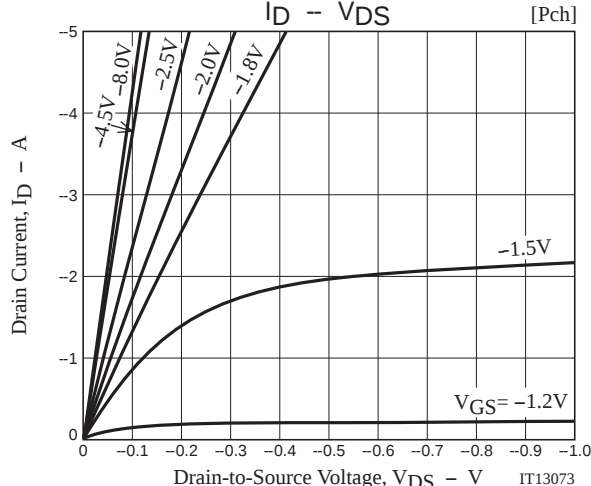
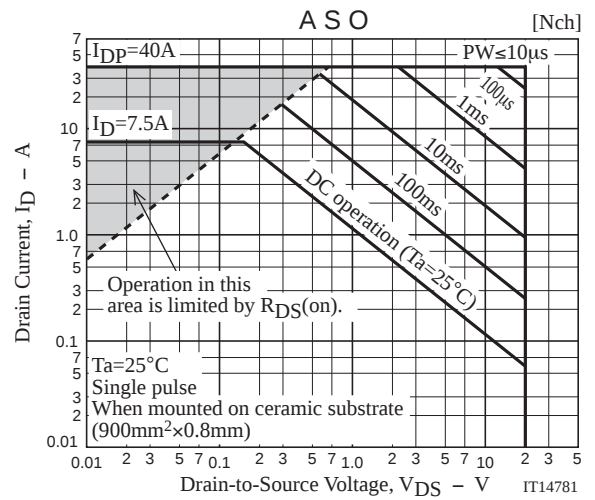
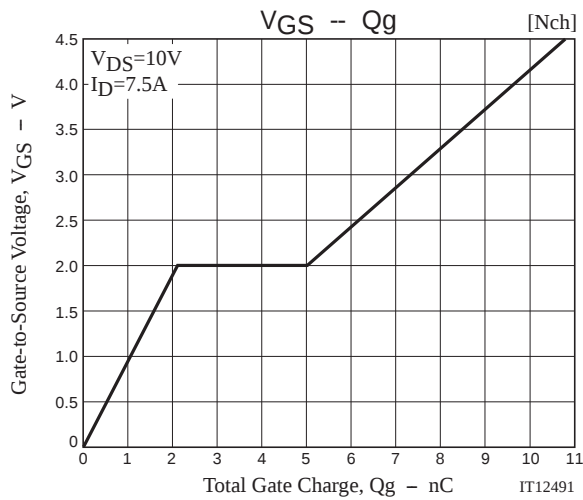
[P-channel]

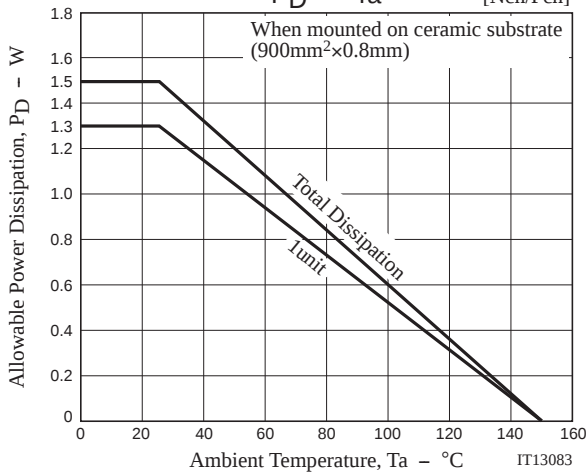
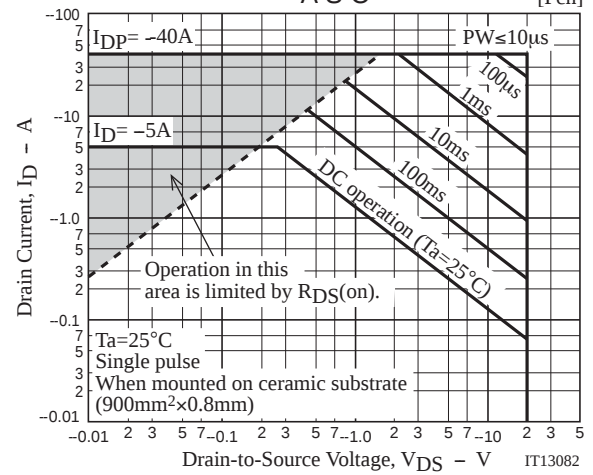
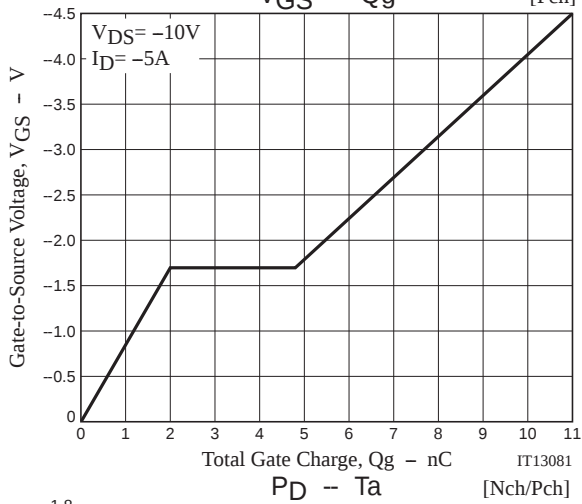
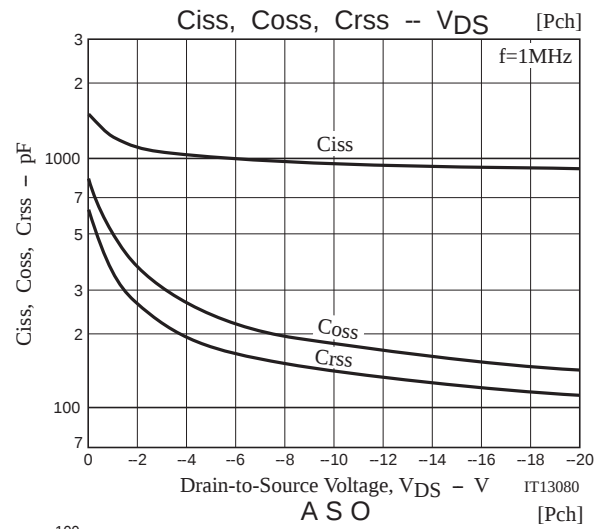
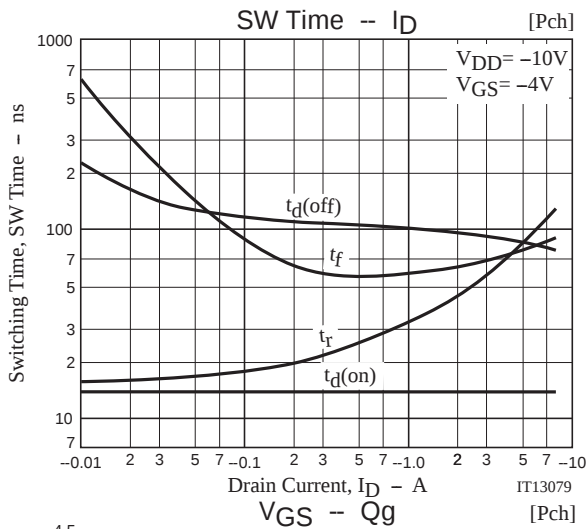


Ordering Information

Device	Package	Shipping	memo
ECH8668-TL-H	ECH8	3,000pcs./reel	Pb Free and Halogen Free







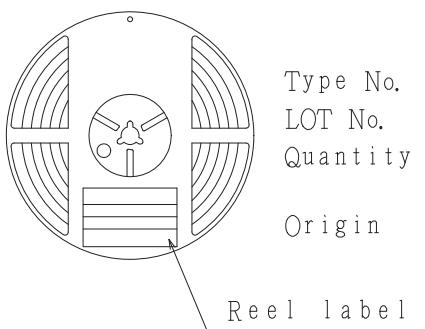
Embossed Taping Specification

ECH8668-TL-H

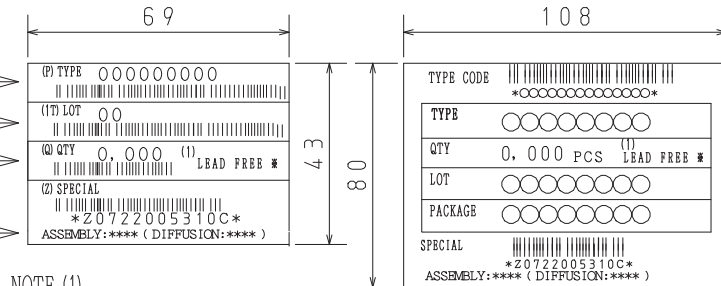
1. Packing Format

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

Packing method

Reel label, Inner box label
(unit:mm)

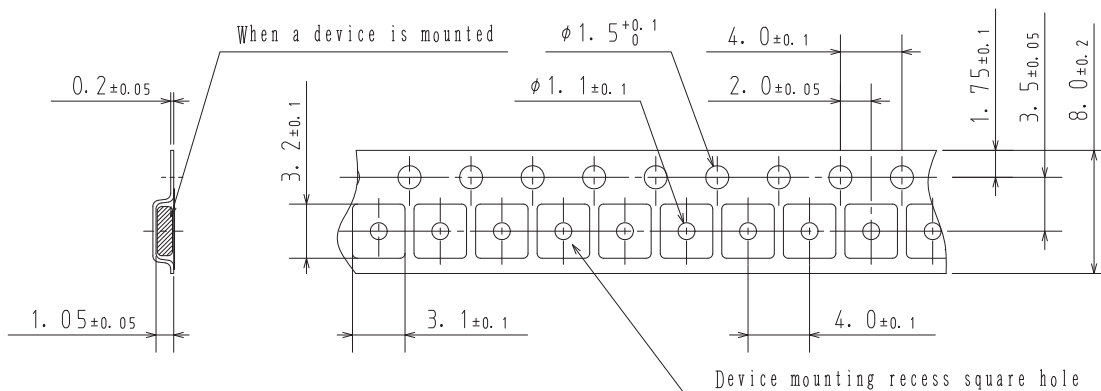
Outer box label

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

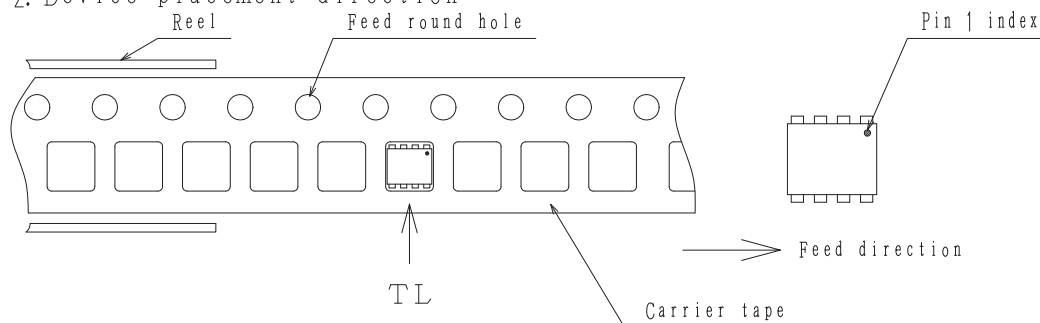
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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

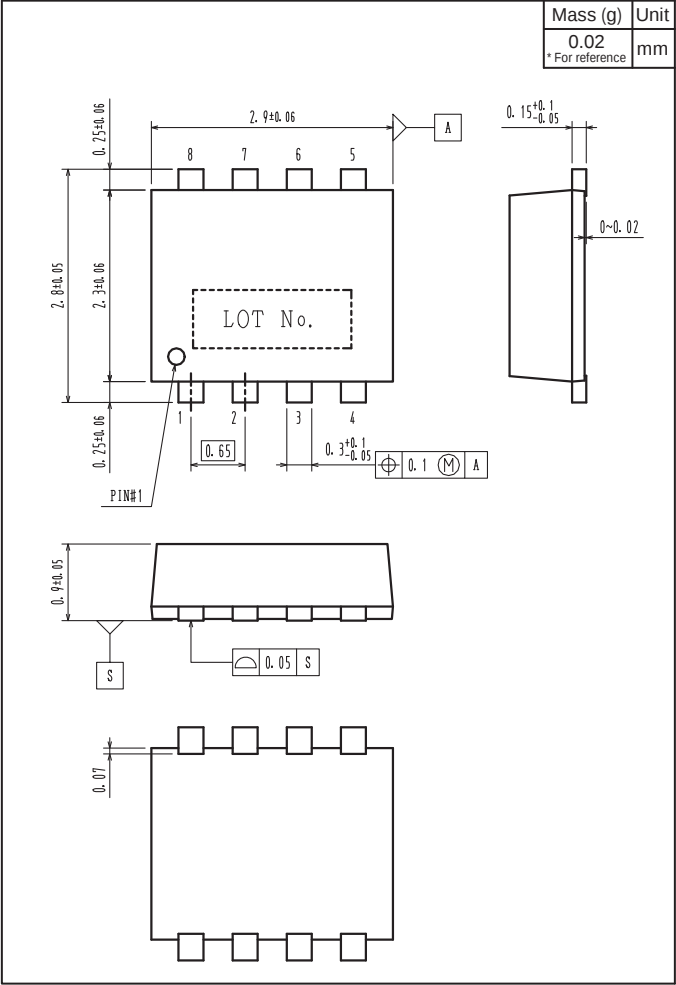


2-2. Device placement direction

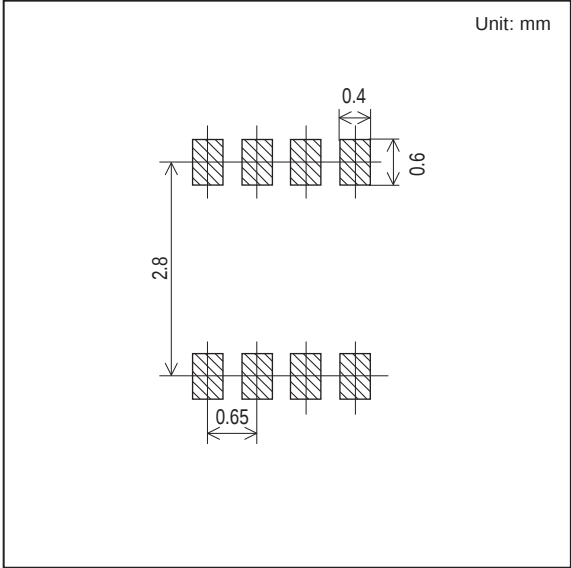


Those with pin 1 index on the feed hole side.....TL

Outline Drawing
ECH8668-TL-H



Land Pattern Example



Note on usage : Since the ECH8668 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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