



SANYO Semiconductors

# DATA SHEET

An ON Semiconductor Company

## CPH6443 — N-Channel Silicon MOSFET General-Purpose Switching Device Applications

### Features

- ON-resistance  $R_{DS(on)1}=28m\Omega$ (typ.)
- 4V drive
- Halogen free compliance
- Protection diode in

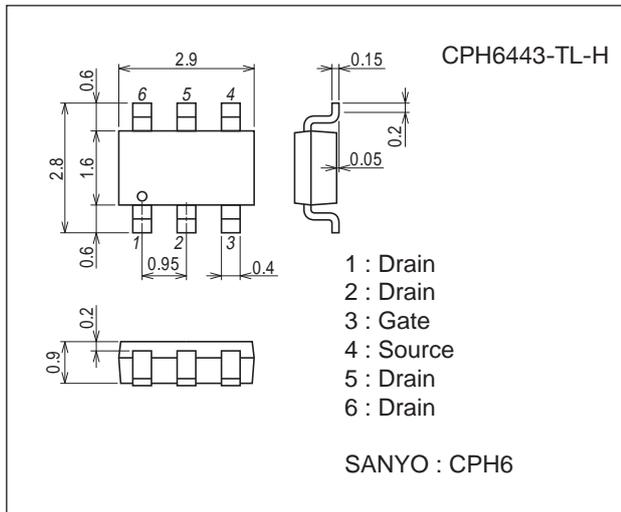
### Specifications

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 (Pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	24	A
Allowable Power Dissipation	$P_D$	When mounted on ceramic substrate (1200mm <sup>2</sup> ×0.8mm)	1.6	W
Channel Temperature	$T_{ch}$		150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C

### Package Dimensions

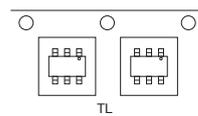
unit : mm (typ)  
7018A-003



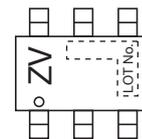
### Product & Package Information

- Package : CPH6
- JEITA, JEDEC : SC-74, SOT-26, SOT-457
- Minimum Packing Quantity : 3,000 pcs./reel

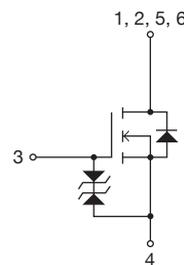
### Packing Type: TL



### Marking



### Electrical Connection

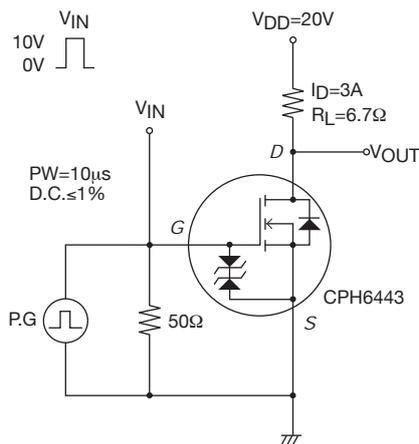


# CPH6443

## Electrical Characteristics at Ta=25°C

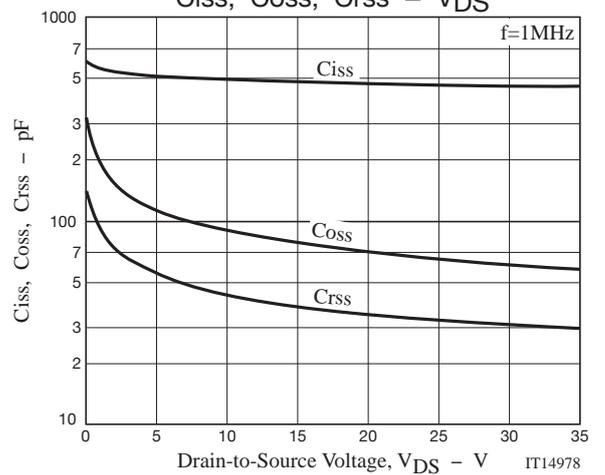
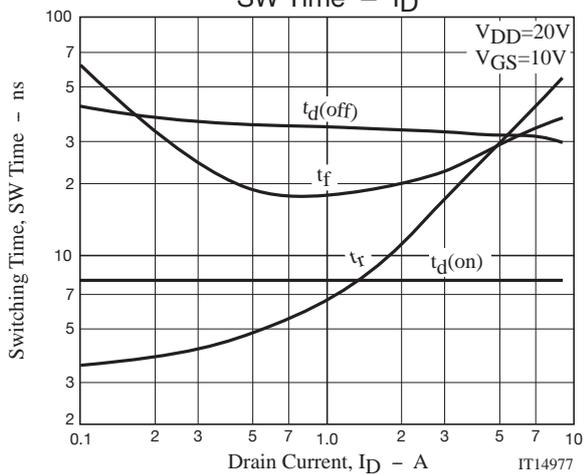
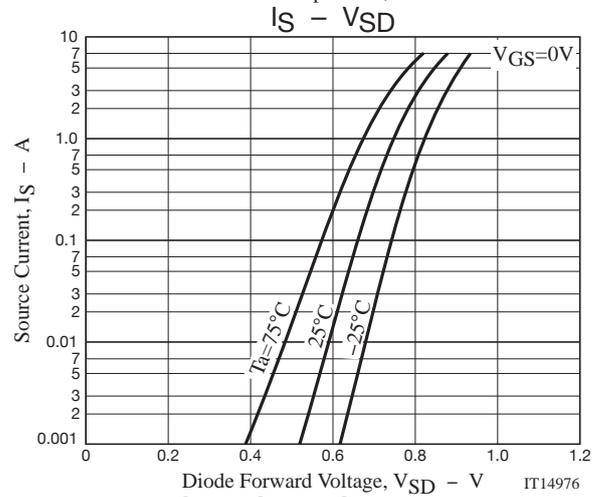
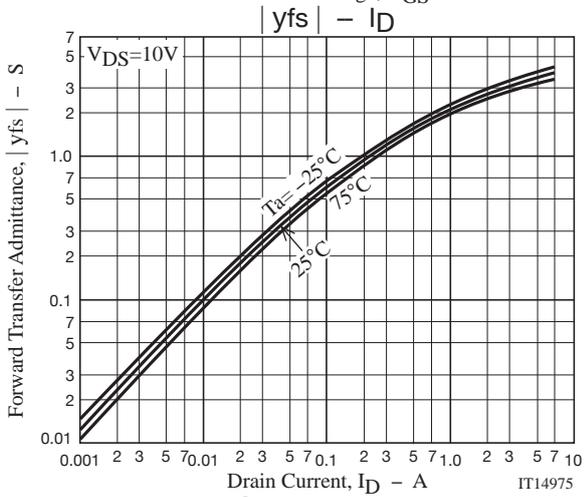
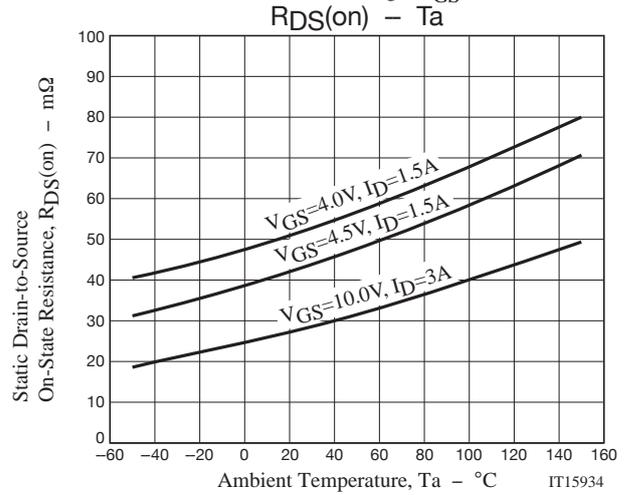
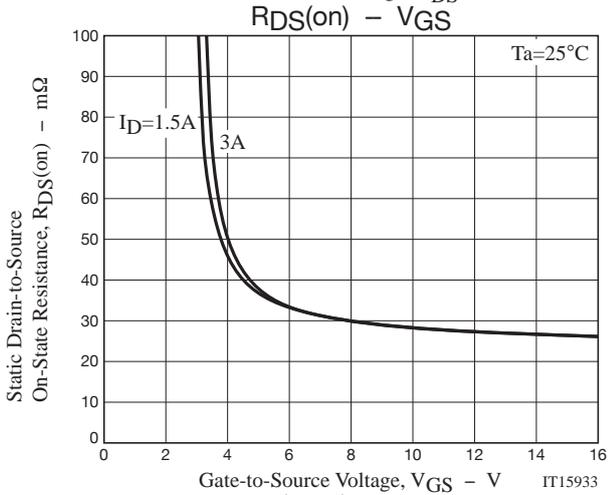
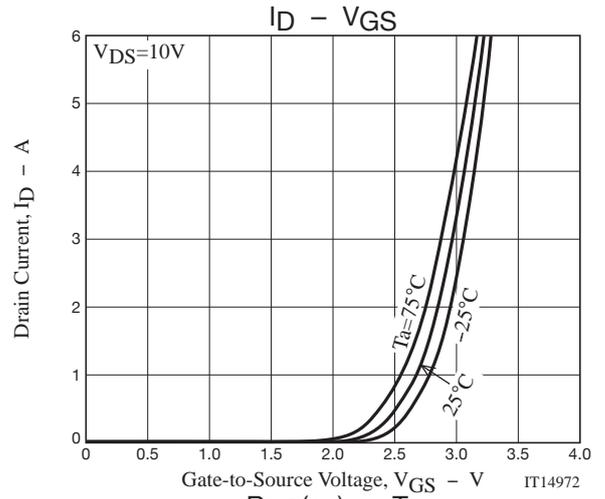
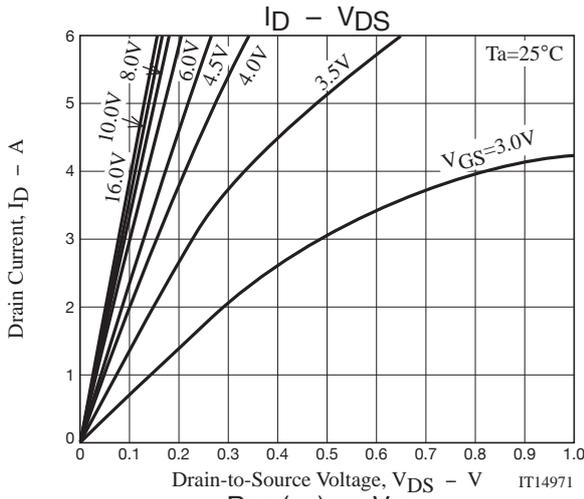
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	35			V
Zero-Gate Voltage Drain Current	IDSS	VDS=35V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	1.2		2.6	V
Forward Transfer Admittance	yfs	VDS=10V, ID=3A		2.9		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=3A, VGS=10V		28	37	mΩ
	RDS(on)2	ID=1.5A, VGS=4.5V		43	61	mΩ
	RDS(on)2	ID=1.5A, VGS=4V		52	73	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.		17		ns
Turn-OFF Delay Time	td(off)			32		ns
Fall Time	tf			22		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

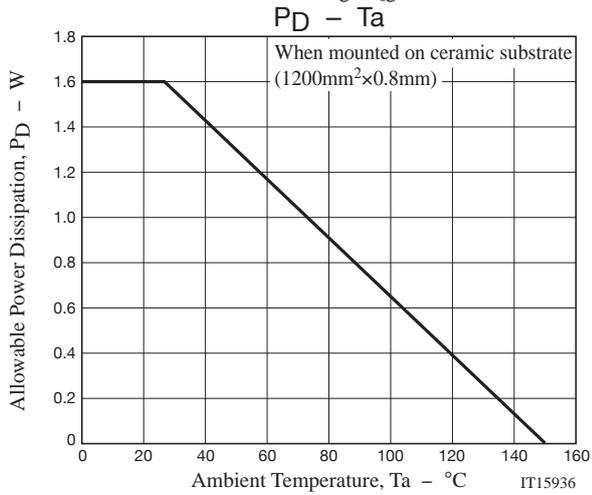
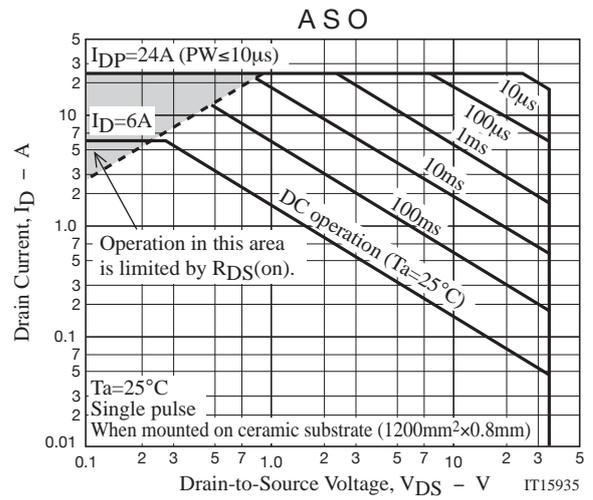
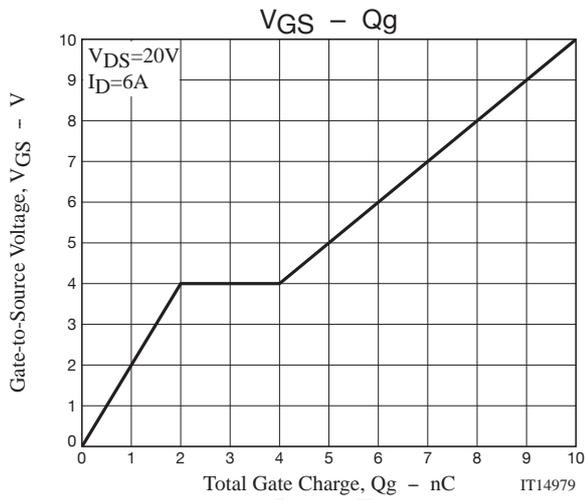
## Switching Time Test Circuit



## Ordering Information

Device	Package	Shipping	memo
CPH6443-TL-H	CPH6	3,000pcs./reel	Pb Free and Halogen Free



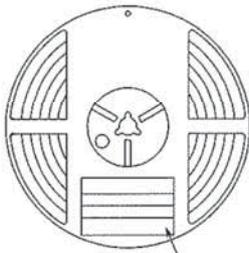


Embossed Taping Specification  
CPH6443-TL-H

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)
CPH6	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

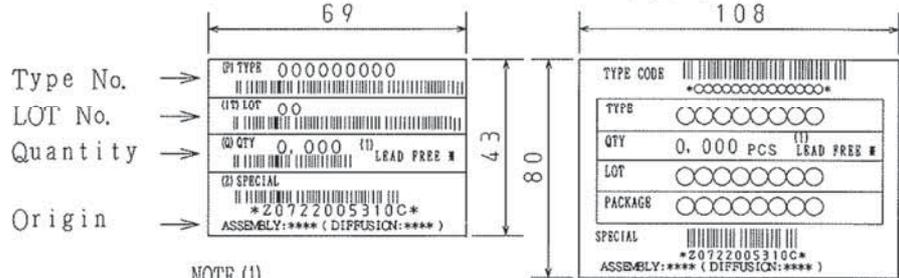


Reel label

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.



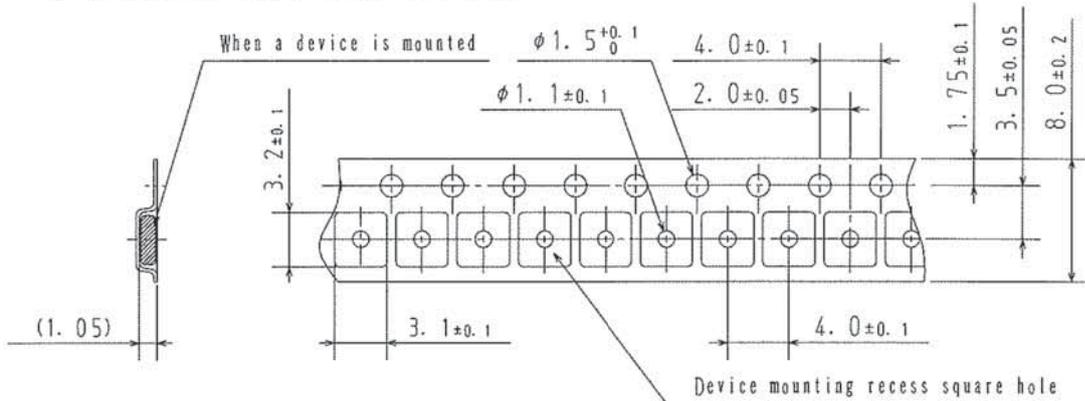
NOTE (1)

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

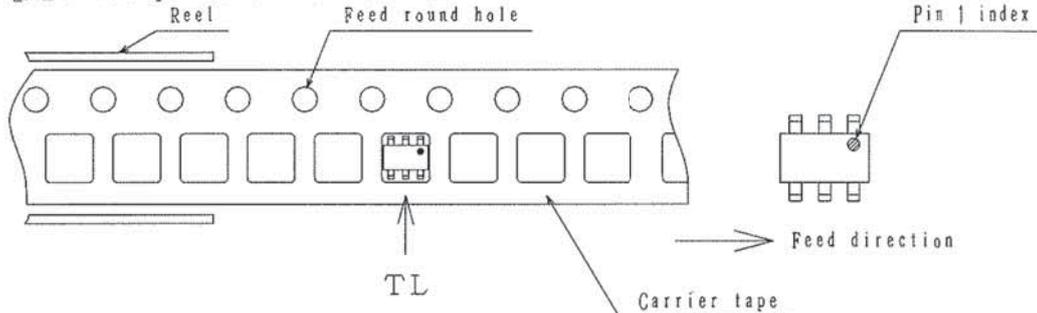
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction

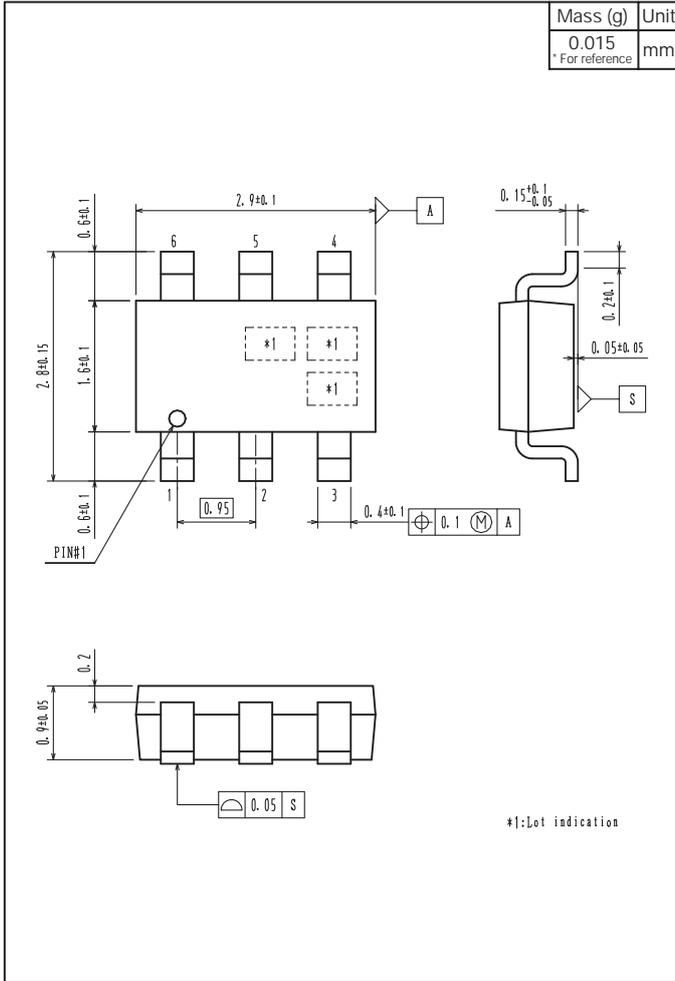


Those with pin 1 index on the feed hole side.....TL

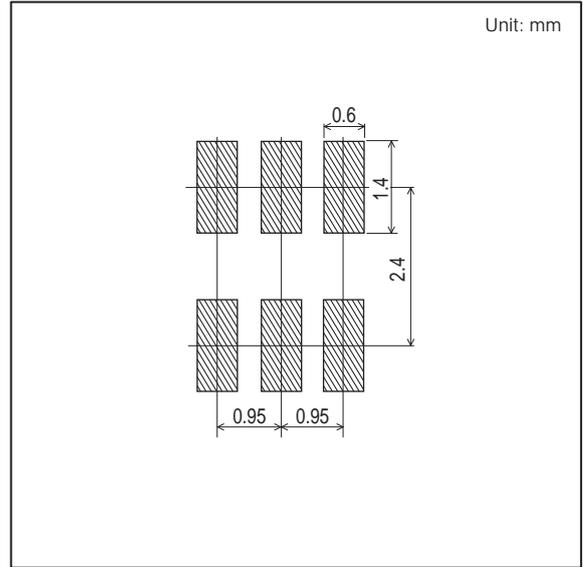
# CPH6443

## Outline Drawing

CPH6443-TL-H



## Land Pattern Example



Note on usage : Since the CPH6443 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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