



# TOSHIBA

Toshiba TPC8402 Handbook

Field effect transistor silicon n, p channel mos type (n-mosvi/u-mosii)



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TOSHIBA Field-Effect Transistor Silicon N, P Channel MOS Type ( $\pi$ -MOSVI/U-MOSII)



Lithium-Ion-Secondary Battery Applications

Notebook PCs

Portable Equipment Applications

Low drain-source ON resistance : P Channel R

High forward transfer admittance : P Channel |Y

Low leakage current : P Channel I

N Channel I

Enhancement-mode

: P Channel V

= -0.8~ -2.0 V (V

th

N Channel V

= 0.8~2.0 V (V

th





# Absolute Maximum Ratings



## Characteristics

Drain-source voltage

= 20 kΩ

Drain-gate voltage (R

GS

Gate-source voltage

DC

Drain current

Pulse

Single-device operation

Drain power

dissipation

(t = 10s)

Single-device value at

(Note 2a)

dual operation (Note 3b)

Single-device operation

Drain power

dissipation

(t = 10s)

Single-device value at

(Note 2b)

dual operation (Note 3b)

Single-pulse avalanche energy

Avalanche current

Repetitive avalanche energy

Single-device value at operation

(Note 2a, Note 3b, Note 5)

Channel temperature

Storage temperature range

Note: For Notes 1 to 5, see the next page.

Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc.).

This transistor is an electrostatic-sensitive device. Handle with care.

# TPC8402

DS (ON)

N Channel R

DS (ON)

| = 7 S (typ.)

fs

N Channel |Y

| = 6 S (typ.)

fs

= -10 μA (V

DSS

DS

= 10 μA (V

DSS

DS





= 37 mΩ (typ.)

= -30 V)

= 30 V)

Unit

30

V

30

V

JEDEC

±20

V

JEITA

5

A

TOSHIBA

20

Weight: 0.080 g (typ.)

1.5

1.0

### Circuit Configuration

W

0.75

0.45

32.5

mJ

(Note 4b)

5

A

mJ

°C

°C

1

## TPC8402

Unit: mm

—

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2-6J1E

2006-11-13

# TOSHIBA




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# Related Manuals for Toshiba TPC8402

## [Semiconductors Toshiba Semiconductor Handling Manual](#)

Toshiba semiconductor handling guide (24 pages)

## Summary of Contents for Toshiba TPC8402

[Page 1](#) (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings. Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

### [Page 2: Thermal Characteristics](#)

TPC8402 Thermal Characteristics Characteristics Symbol Max. Unit Single-device operation 83.3 th (ch-a) (1) (Note 3a) Thermal resistance, channel to ambient (t = 10s) (Note 2a) Single-device value at dual operation th (ch-a) (2) (Note 3b) °C/W Single-device operation th (ch-a) (1)

### [Page 3: Electrical Characteristics](#)

TPC8402 P-ch Electrical Characteristics (Ta = 25°C) Characteristics Symbol Test Condition Min. Typ. Max. Unit Gate leakage current = ±16 V, V = 0 V — — ±10 µA Drain cut-off current = -30 V, V = 0 V —...

[Page 4](#) TPC8402 N-ch Electrical Characteristics (Ta = 25°C) Characteristics Symbol Test Condition Min. Typ. Max. Unit Gate leakage current = ±16 V, V = 0 V — — ±10 µA Drain cut-off current = 30 V, V = 0 V —...

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