

### Introduction of small-package MOSFET

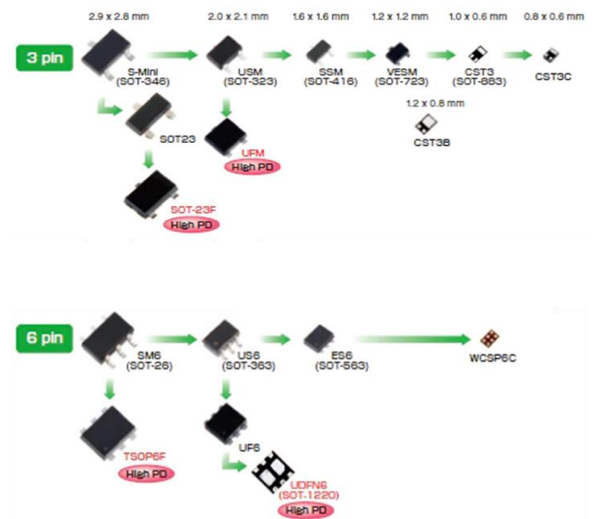
Small package MOSFET ideal for IoT devices and mobile devices.

Toshiba has the number of registered small-signal MOSFET (S-MOS) with small package. The products include industry-standard packages such as CST3 (SOT-882), VESM (SOT-723) and SOT23.

The maximum rated voltage of typical characteristics is available up to 100V, and supports a wide range from signal control to power supply control. Surface mount package is effective in reducing PCB layouts, and is suitable for applications requiring smaller and lighter IoT devices and mobile equipment. We are also expanding Spice models, which are indispensable design tools, to help users select and design products more easily.

#### Features

- Small packages: 0.8mmX 0.6mm ~ 2.9mmX 2.8mm
- Wide voltage rating Lineup:  $V_{DSS}=12 \sim 100$  V
- Low on-resistance:  $6.5m\Omega \sim @4.5$  V
- Halogen-free and ROHS compliant
















#### • Small package MOSFET selection table

Nch MOSFET [single]

| $V_{DSS}$<br>(V) | Package           |                   |                   |                   |                   |                   |                   |                      |                                      |                   |                              |                     |                   |
|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|----------------------|--------------------------------------|-------------------|------------------------------|---------------------|-------------------|
|                  | CST3C             | CST3<br>(SOT-883) | CST3B             | WCP6C             | VESM<br>(SOT-723) | SSM<br>(SOT-416)  | ES6<br>(SOT-563)  | UDFN6B<br>(SOT-1220) | UFM<br>(SOT323F)<br>USM<br>(SOT-323) | UF6<br>(SOT-363F) | SOT-23F<br>SOT23<br>(SOT-23) | S-Mini<br>(SOT-346) | TSOP6F            |
|                  |                   |                   |                   |                   |                   |                   |                   |                      |                                      |                   |                              |                     |                   |
|                  | 0.8 x 0.6<br>(mm) | 1.0 x 0.6<br>(mm) | 1.2 x 0.8<br>(mm) | 1.5 x 1.0<br>(mm) | 1.2 x 1.2<br>(mm) | 1.6 x 1.6<br>(mm) | 1.6 x 1.6<br>(mm) | 2.0 x 2.0<br>(mm)    | 2.0 x 2.1<br>(mm)                    | 2.0 x 2.1<br>(mm) | 2.9 x 2.4<br>(mm)            | 2.9 x 2.5<br>(mm)   | 2.9 x 2.8<br>(mm) |
| 12               |                   |                   |                   | <a href="#">○</a> |                   |                   |                   |                      |                                      |                   |                              |                     |                   |
| 20               | <a href="#">○</a> | <a href="#">○</a> |                   |                   | <a href="#">○</a> | <a href="#">○</a> | <a href="#">○</a> | <a href="#">○</a>    | <a href="#">○</a>                    | <a href="#">○</a> | <a href="#">○</a>            | <a href="#">○</a>   |                   |
| 30               | <a href="#">○</a> | <a href="#">○</a> |                   |                   | <a href="#">○</a> | <a href="#">○</a> | <a href="#">○</a> | <a href="#">○</a>    | <a href="#">○</a>                    | <a href="#">○</a> | <a href="#">○</a>            | <a href="#">○</a>   |                   |
| 38               |                   |                   |                   |                   |                   |                   |                   |                      |                                      |                   | <a href="#">○</a>            |                     |                   |
| 40               |                   |                   | <a href="#">○</a> |                   |                   |                   | <a href="#">○</a> | <a href="#">○</a>    |                                      |                   | <a href="#">○</a>            |                     |                   |
| 60               | <a href="#">○</a> | <a href="#">○</a> |                   |                   |                   | <a href="#">○</a> | <a href="#">○</a> | <a href="#">○</a>    | <a href="#">○</a>                    | <a href="#">○</a> | <a href="#">○</a>            | <a href="#">○</a>   | <a href="#">○</a> |
| 100              |                   |                   |                   |                   |                   |                   | <a href="#">○</a> | <a href="#">○</a>    | <a href="#">○</a>                    | <a href="#">○</a> | <a href="#">○</a>            |                     |                   |

## Pch MOSFET [single]

| V <sub>DSS</sub> (V) | Package   |   |   |   |   |   |   |   |   |   |  |   |   |
|----------------------|---|---|---|---|---|---|---|---|---|---|--|---|---|
|                      | CST3C   | CST3 (SOT-883)  | CST3B   | WCSP6 C   | VESM (SOT-723)  | SSM (SOT-416)   | ES6 (SOT-563)   | UDFN6B (SOT-1220)   | UFM (SOT323F) USM (SOT-323)   | UF6 (SOT-363F)  | SOT-23F SOT23 (SOT-23)   | S-Mini (SOT-346)  | TSOP6 F   |
|                      |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                      | 0.8 x 0.6 (mm)  | 1.0 x 0.6 (mm)  | 1.2 x 0.8 (mm)  | 1.5 x 1.0 (mm)  | 1.2 x 1.2 (mm)  | 1.6 x 1.6 (mm)  | 1.6 x 1.6 (mm)  | 2.0 x 2.0 (mm)  | 2.0 x 2.1 (mm)  | 2.0 x 2.1 (mm)  | 2.9 x 2.4 (mm)   | 2.9 x 2.5 (mm)  | 2.9 x 2.8 (mm)  |
| -12                  | <a href="#">○</a>   |   |   |   |   |   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   |   |  |   |   |
| -20                  | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>  | <a href="#">○</a>   | <a href="#">○</a>   |
| -30                  |   | <a href="#">○</a>   |   |   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>  | <a href="#">○</a>   |   |
| -60                  |   |   |   |   |   |   |   |   |   |   | <a href="#">○</a>  | <a href="#">○</a>   |   |

### • MOSFET selection table

[Dual / Complimentary]

| Polarity                  | V <sub>DSS</sub> (V)   | Package   |   |   |   |   |   |
|---------------------------|------------------------|---|---|---|---|---|---|
|                           |                        | ESV (SOT-553)   | ES6 (SOT-563)   | UDFN6 (SOT-1118)  | USV (SOT-353)   | UF6 (SOT-363F) US6 (SOT-363)  | TSOP6F (SOT-26F)  |
|                           |                        |  |  |  |  |  |  |
|                           |                        | 1.6 x 1.6 (mm)  | 1.6 x 1.6 (mm)  | 2.0 x 2.0 (mm)  | 2.0 x 2.1 (mm)  | 2.0 x 2.1 (mm)  | 2.9 x 2.8 (mm)  |
| <a href="#">N-chx2</a>    | <a href="#">20</a>     | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   |   |
| <a href="#">N-chx2</a>    | <a href="#">30</a>     | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   |   |
| <a href="#">N-chx2</a>    | <a href="#">50</a>     |   |   |   |   | <a href="#">○</a>   |   |
| <a href="#">N-chx2</a>    | <a href="#">60</a>     |   | <a href="#">○</a>   |   |   | <a href="#">○</a>   | <a href="#">○</a>   |
| <a href="#">P-chx2</a>    | <a href="#">-20</a>    | <a href="#">○</a>   | <a href="#">○</a>   | <a href="#">○</a>   |   | <a href="#">○</a>   |   |
| <a href="#">P-chx2</a>    | <a href="#">-30</a>    |   | <a href="#">○</a>   |   | <a href="#">○</a>   | <a href="#">○</a>   |   |
| <a href="#">N-ch+P-ch</a> | <a href="#">20/-20</a> |   | <a href="#">○</a>   | <a href="#">○</a>   |   | <a href="#">○</a>   |   |
| <a href="#">N-ch+P-ch</a> | <a href="#">30/-20</a> |   |   |   |   | <a href="#">○</a>   | <a href="#">○</a>   |
| <a href="#">N-ch+P-ch</a> | <a href="#">30/-30</a> |   |   |   |   | <a href="#">○</a>   |   |

### LINK

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