

SWITCHING N-CHANNEL POWER MOS FET INDUSTRIAL USE

DESCRIPTION

This product is Dual N-Channel MOS Field Effect Transistor designed for power management application of notebook computers, and Li-ion battery application.

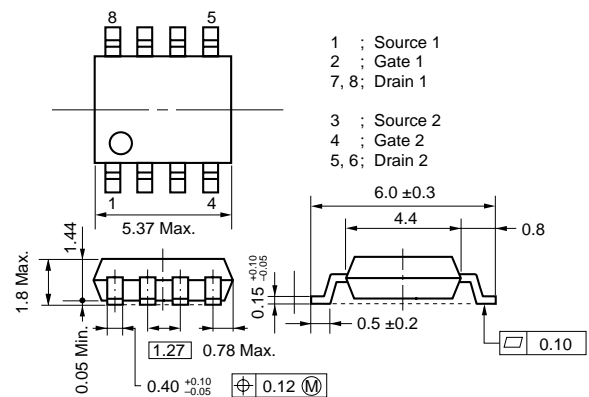
FEATURES

- Dual MOS FET chips in small package
- 2.5 V gate drive type low on-state resistance
 $R_{DS(on)1} = 30 \text{ m}\Omega$ (MAX.) ($V_{GS} = 4.5 \text{ V}$, $I_D = 3.0 \text{ A}$)
 $R_{DS(on)2} = 40 \text{ m}\Omega$ (MAX.) ($V_{GS} = 2.5 \text{ V}$, $I_D = 3.0 \text{ A}$)
- Low C_{iss} : $C_{iss} = 1100 \text{ pF}$ (TYP.)
- Built-in G-S protection diode
- Small and surface mount package (Power SOP8)

ORDERING INFORMATION

| PART NUMBER | PACKAGE |
|-------------|------------|
| μPA1758G | Power SOP8 |

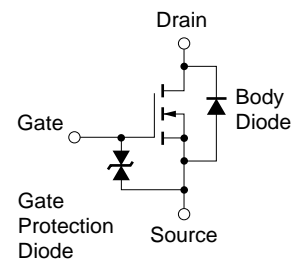
PACKAGE DRAWING (Unit : mm)



ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C)

| | | | |
|---|----------------|--------------|----|
| Drain to Source Voltage ($V_{GS} = 0$) | V_{DSS} | 30 | V |
| Gate to Source Voltage ($V_{DS} = 0$) | V_{GSS} | ±12.0 | V |
| Drain Current (DC) | $I_{D(DC)}$ | ±6.0 | A |
| Drain Current (Pulse) ^{Note1} | $I_{D(pulse)}$ | ±24 | A |
| Total Power Dissipation (1 unit) ^{Note2} | P_T | 1.7 | W |
| Total Power Dissipation (2 unit) ^{Note2} | P_T | 2.0 | W |
| Channel Temperature | T_{ch} | 150 | °C |
| Storage Temperature | T_{stg} | -55 to + 150 | °C |

EQUIVALENT CIRCUIT



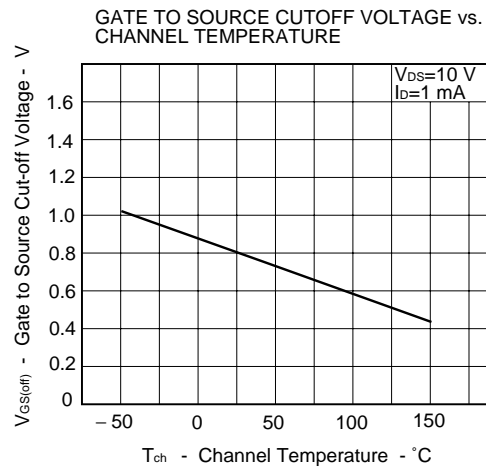
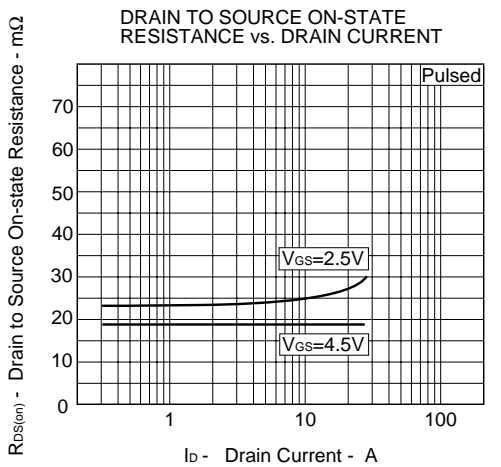
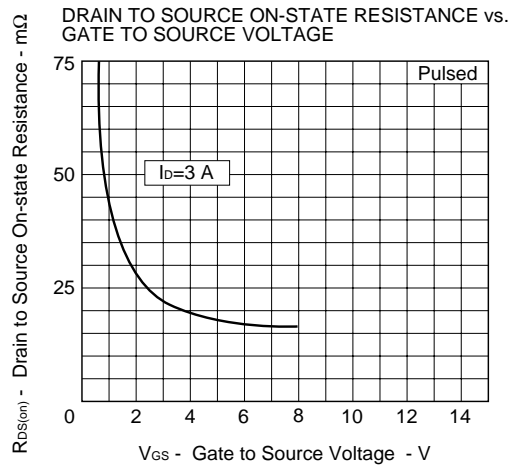
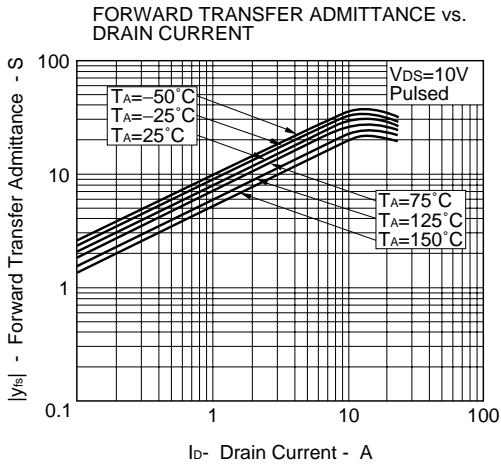
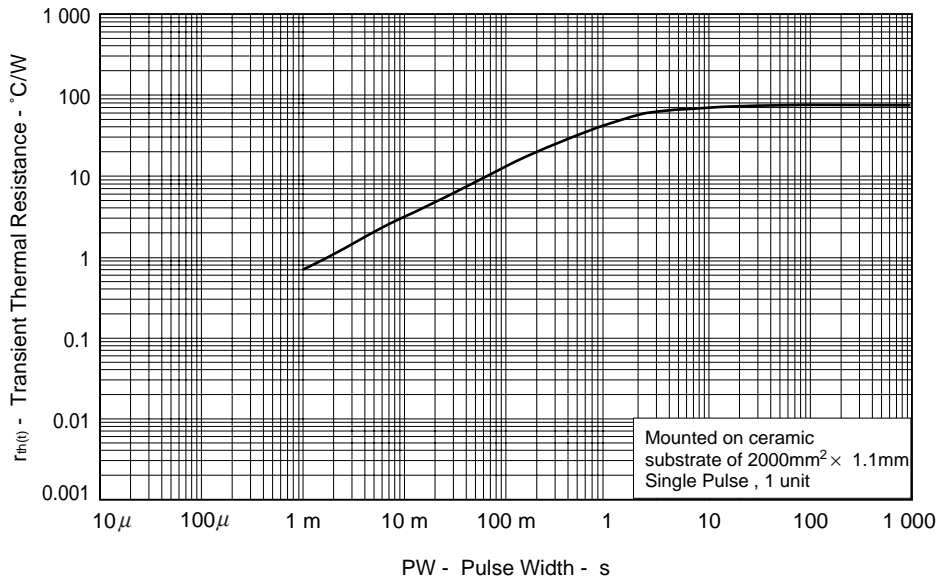
- Notes**
1. $PW \leq 10 \mu s$, Duty cycle $\leq 1 \%$
 2. Mounted on ceramic substrate of $2000 \text{ mm}^2 \times 1.1 \text{ mm}$

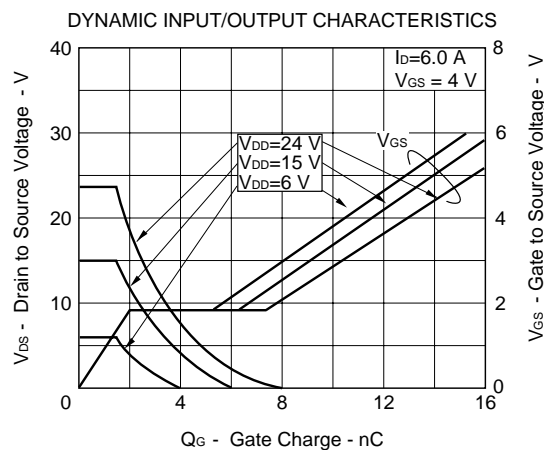
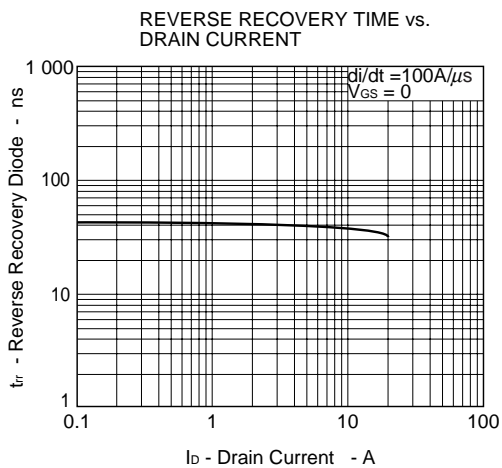
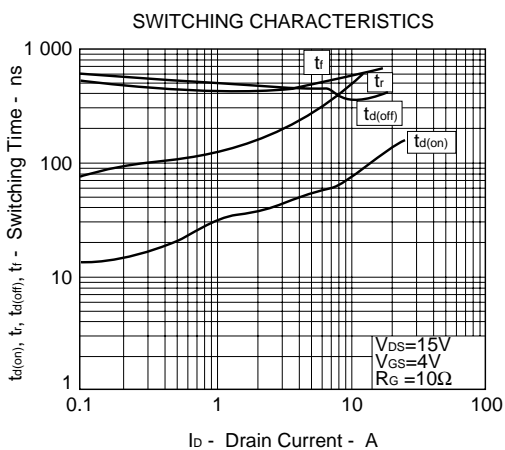
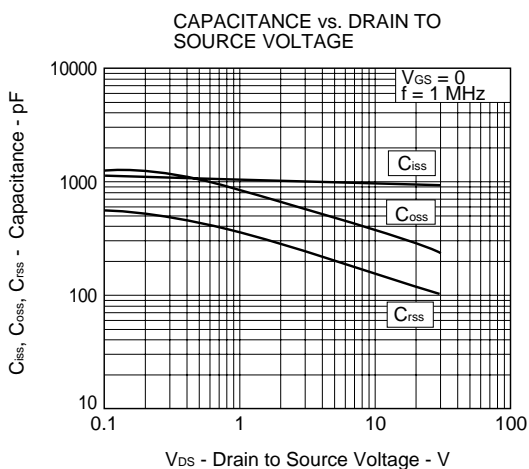
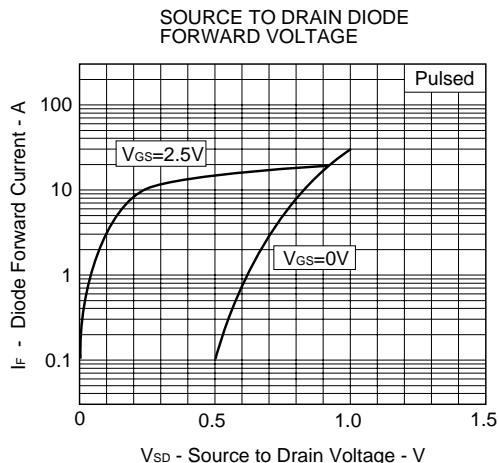
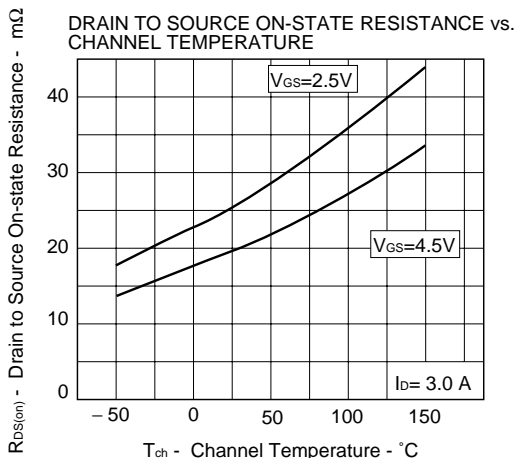
Remark The diode connected between the gate and source of the transistor serves as a protector against ESD. When this device actually used, an additional protection circuit is externally required if a voltage exceeding the rated voltage may be applied to this device.

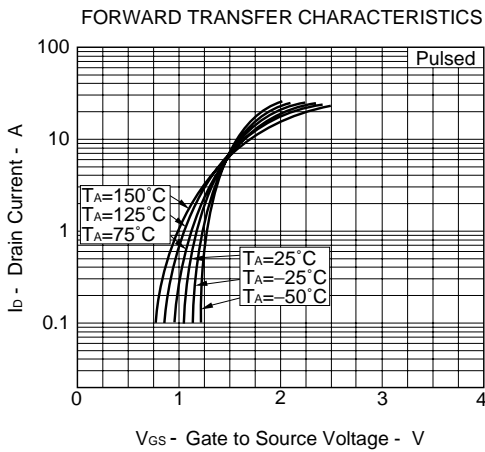
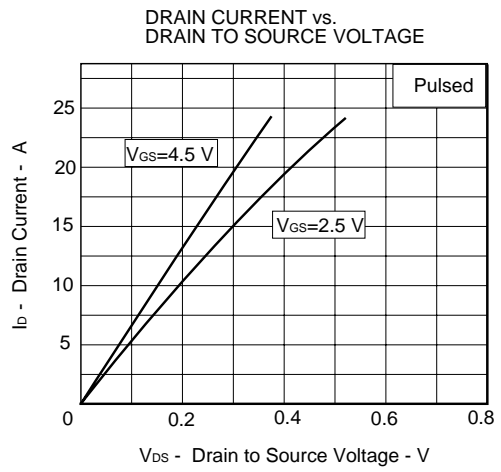
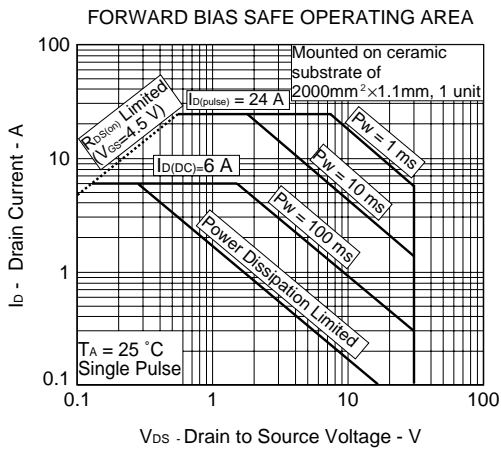
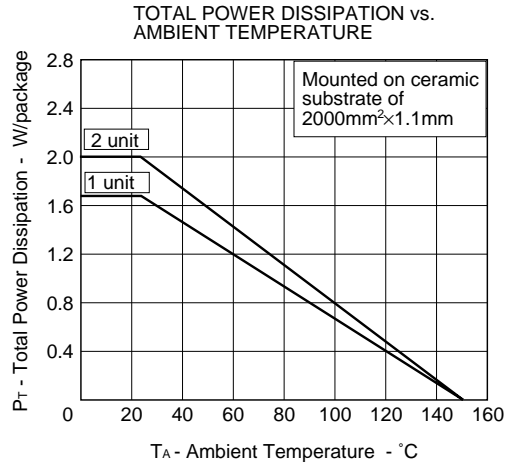
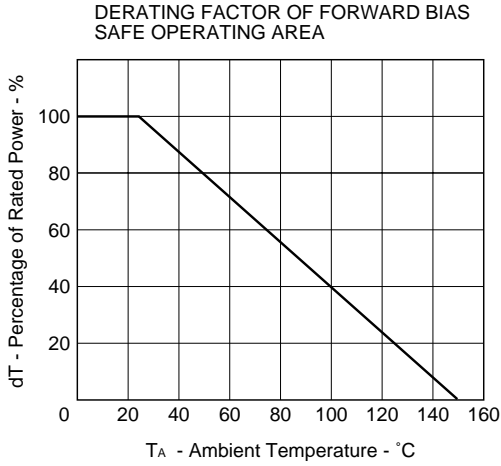
The information in this document is subject to change without notice.

TYPICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

TRANSIENT THERMAL RESISTANCE vs. PULSE WIDTH







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Anti-radioactive design is not implemented in this product.