

P0R5B60HP2

Power MOSFETs
600V, 0.5A, N-channel

Feature

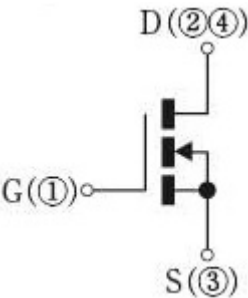
- N-channel
- SMD
- High Voltage
- Low Capacitance
- High Avalanche Durability, High di/dt Durability
- Pb free terminal
- RoHS:Yes

OUTLINE

Package (House Name): FB
Package (JEDEC Code): TO-252AA



Equivalent circuit



Absolute Maximum Ratings (unless otherwise specified : Tc=25°C)

| Item | Symbol | Conditions | Ratings | Unit |
|-----------------------------------|------------------|-------------------------------|------------|------|
| Storage temperature | Tstg | | -55 to 150 | °C |
| Channel tempertature | Tch | | 150 | °C |
| Drain-source voltage | V _{DSS} | | 600 | V |
| Gate-source voltage | V _{GSS} | | ±30 | V |
| Continuous drain current(DC) | I _D | | 0.5 | A |
| Continuous drain current(Peak) | I _{DP} | Pulse width 10μs, duty=1/100 | 2 | A |
| Continuous source current(DC) | I _S | | 0.5 | A |
| Total power dissipation | P _T | | 35 | W |
| Repetitive avalanche current | I _{AR} | Starting Tch=25°C Tch≤150°C | 0.5 | A |
| Single avalanche energy | E _{AS} | Starting Tch=25°C Tch≤150°C | 5 | mJ |
| Repetitive avalanche energy | E _{AR} | Starting Tch=25°C Tch≤150°C | 0.5 | mJ |
| Drain-source diode di/dt strength | di/dt | I _S =0.5A, Tc=25°C | 350 | A/μs |

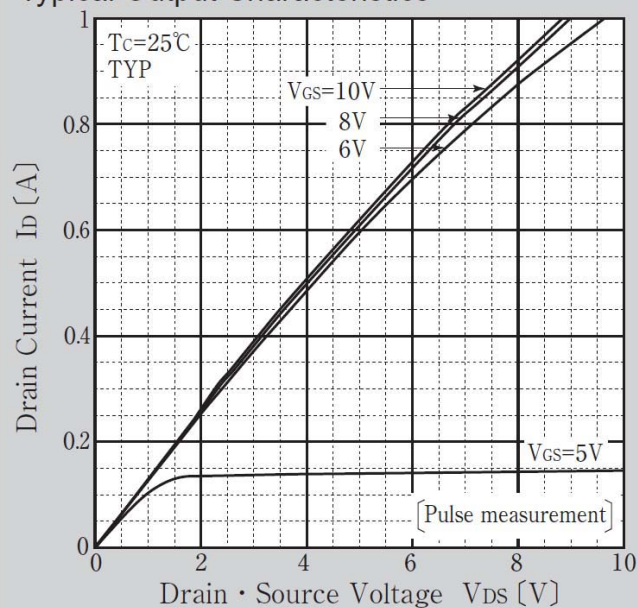
※ :See the original Specifications

Electrical Characteristics (unless otherwise specified : Tc=25°C)

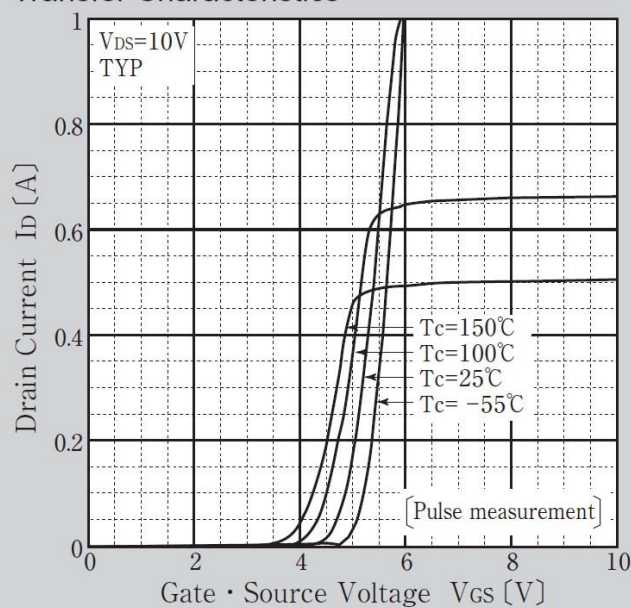
| Item | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|--|---------|------|------|------|
| | | | MIN | TYP | MAX | |
| Drain-Source breakdown voltage | $V_{(BR)DSS}$ | ID=1mA, VGS=0V | 600 | | | V |
| Zero gate voltage drain current | I_{DSS} | VDS=600V, VGS=0V | | | 100 | μA |
| Gate-source leakage current | I_{GSS} | VGS=±25V, VDS=0V | | | ±10 | μA |
| Forward transconductance | g_{fs} | ID=0.25A, VDS=10V | 0.4 | 0.8 | | S |
| Static drain-source on-state resistance | $R_{DS(ON)}$ | ID=0.25A, VGS=10V | | 8.3 | 10 | Ω |
| Gate threshold voltage | V_{th} | ID=1mA, VDS=10V | 3 | 3.75 | 4.5 | V |
| Source-drain diode forward voltage | V_{SD} | IS=0.25A, VGS=0V | | | 1.5 | V |
| Thermal resistance | $R_{th(j-c)}$ | Junction to case | | | 3.55 | °C/W |
| Total gate charge | Q_g | VDD=400V, VGS=10V, ID=0.5A | | 4.3 | | nC |
| Input capacitance | C_{iss} | VDS=50V, VGS=0V, f=1MHz | | 120 | | pF |
| Reverse transfer capacitance | C_{rss} | VDS=50V, VGS=0V, f=1MHz | | 3.3 | | pF |
| Output capacitance | C_{oss} | VDS=50V, VGS=0V, f=1MHz | | 18 | | pF |
| Turn-on delay time | $t_{d(on)}$ | ID=0.25A, RL=600Ω, VDD=150V, Rg=50Ω, VGS(+)=10V, VGS(-)=0V | | 9 | | ns |
| Rise time | t_r | ID=0.25A, RL=600Ω, VDD=150V, Rg=50Ω, VGS(+)=10V, VGS(-)=0V | | 5 | | ns |
| Turn-off delay time | $t_{d(off)}$ | ID=0.25A, RL=600Ω, VDD=150V, Rg=50Ω, VGS(+)=10V, VGS(-)=0V | | 26 | | ns |
| Fall time | t_f | ID=0.25A, RL=600Ω, VDD=150V, Rg=50Ω, VGS(+)=10V, VGS(-)=0V | | 30 | | ns |

※ : See the original Specifications

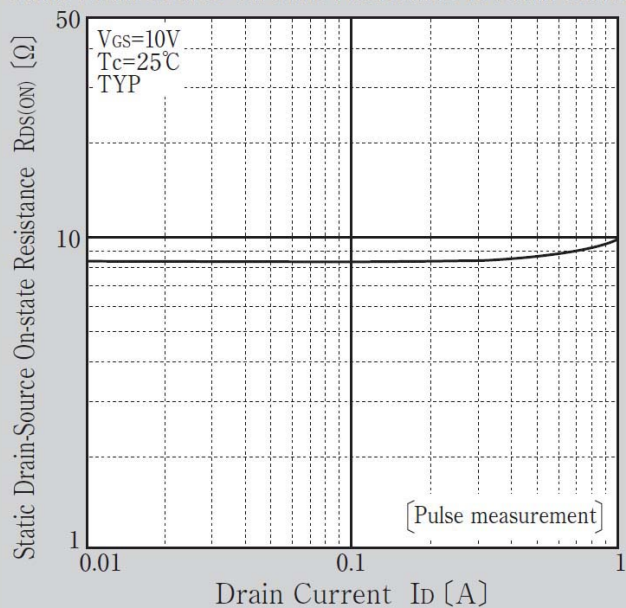
Typical Output Characteristics



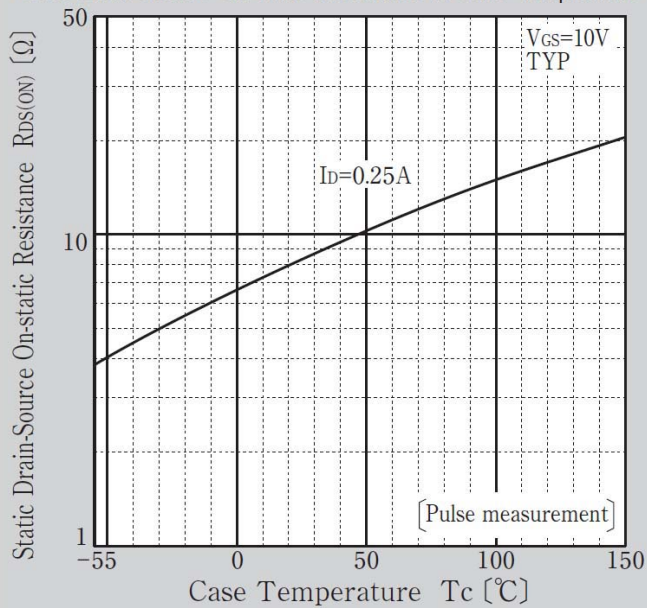
Transfer Characteristics

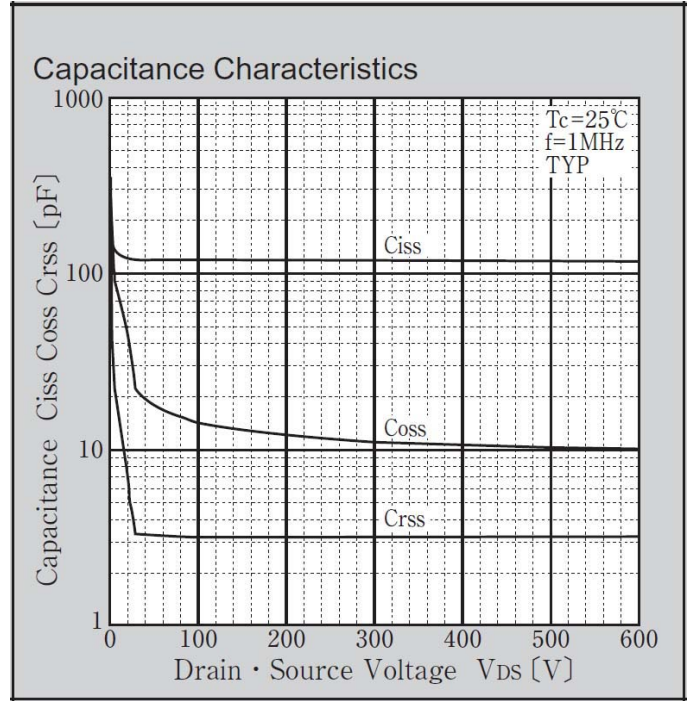
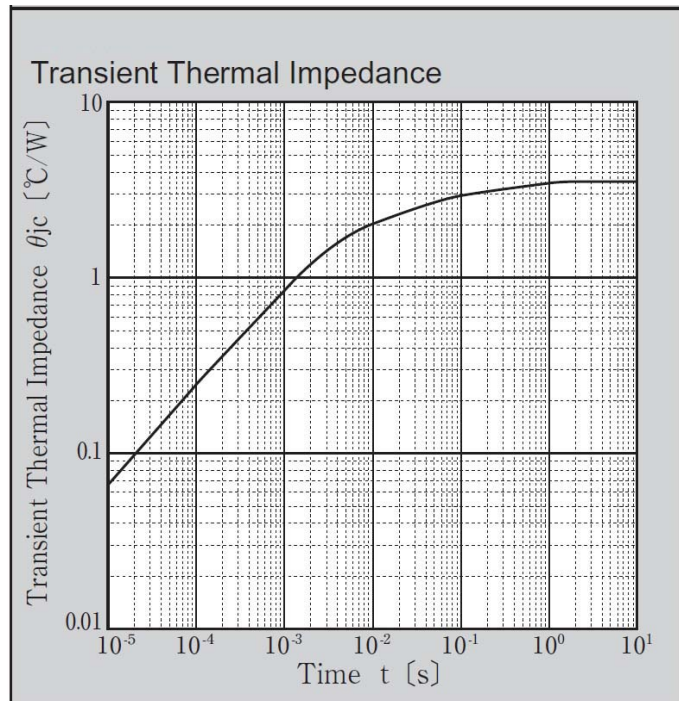
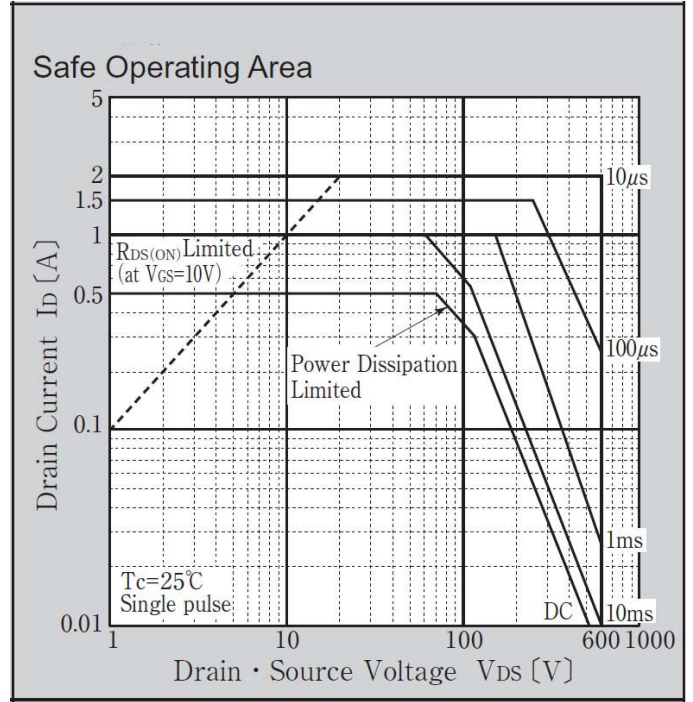
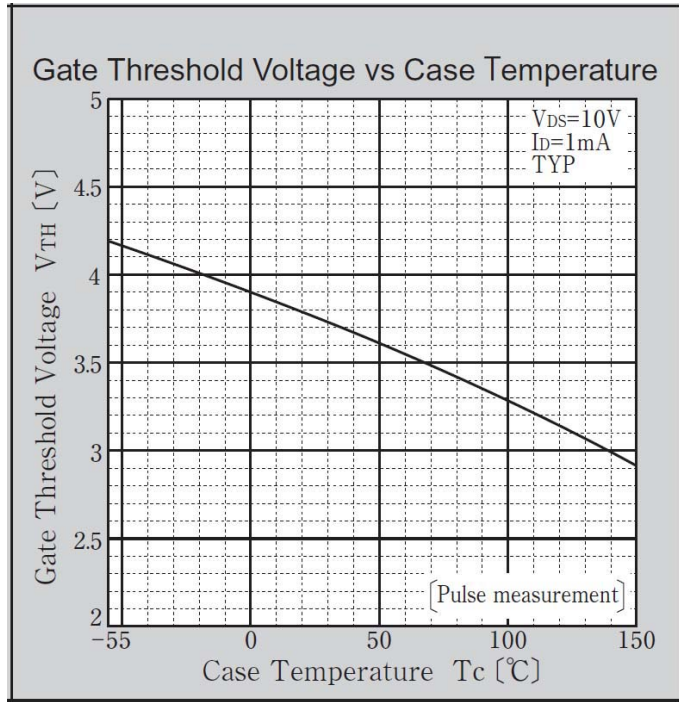


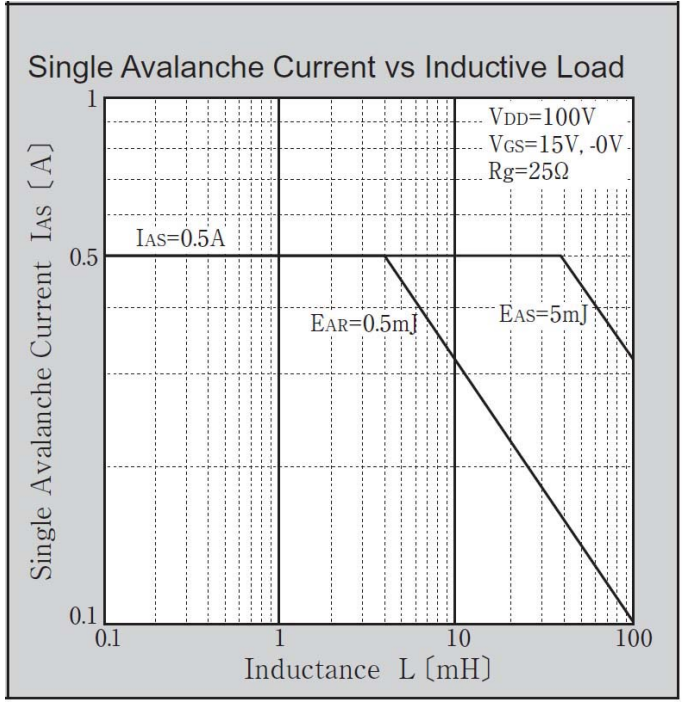
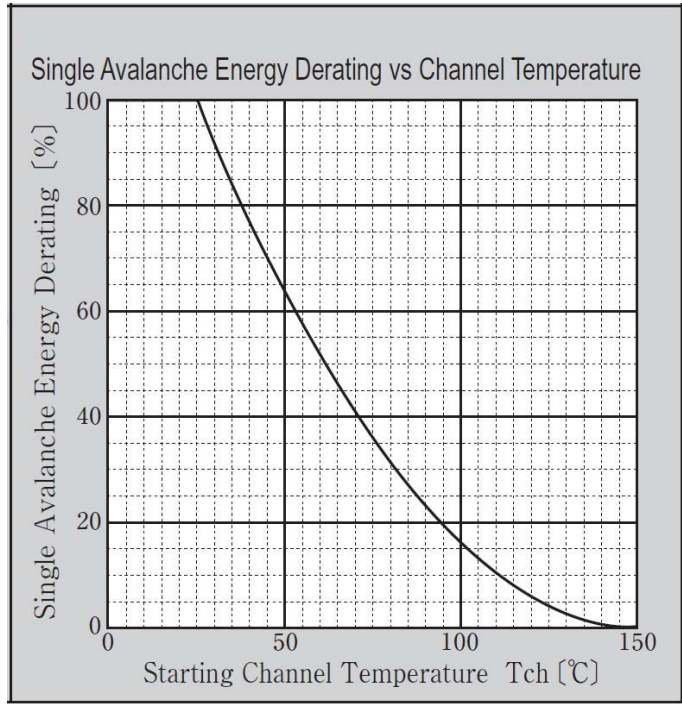
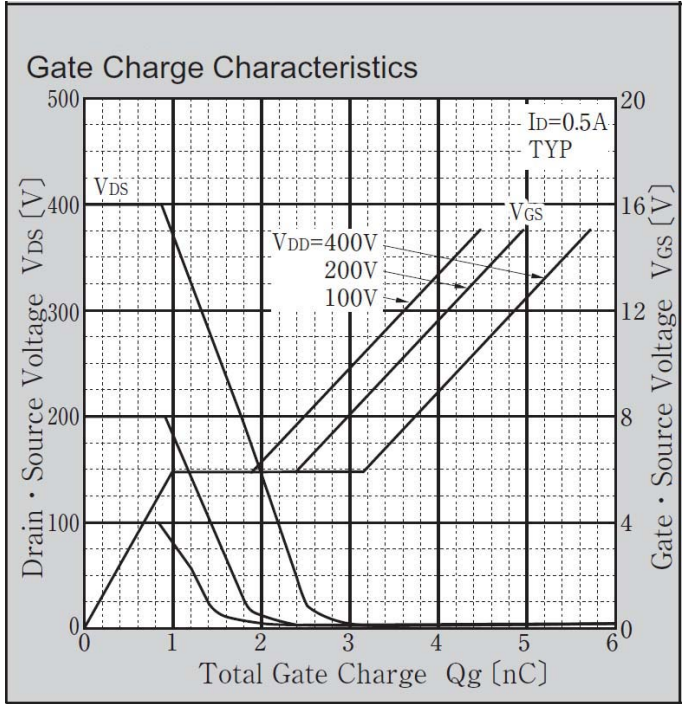
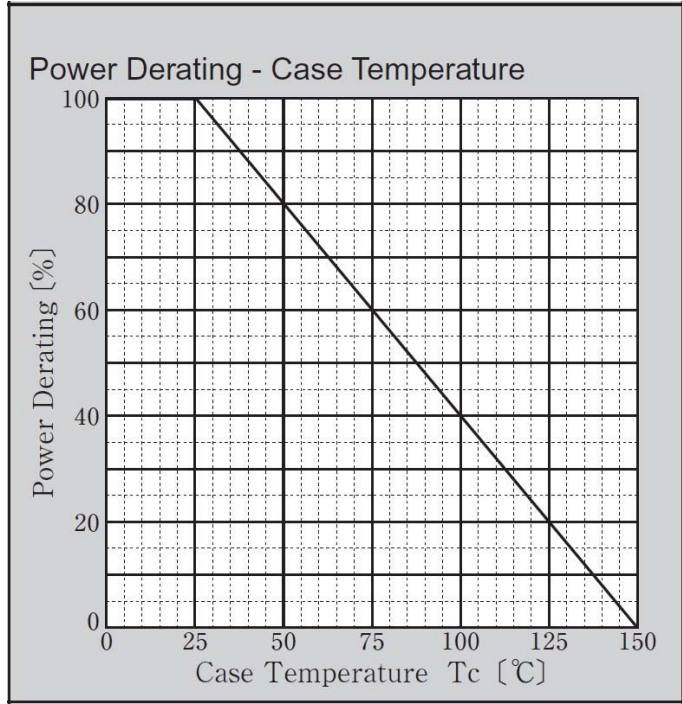
Static Drain-Source On-state Resistance vs Drain Current



Static Drain-Source On-static Resistance vs Case Temperature

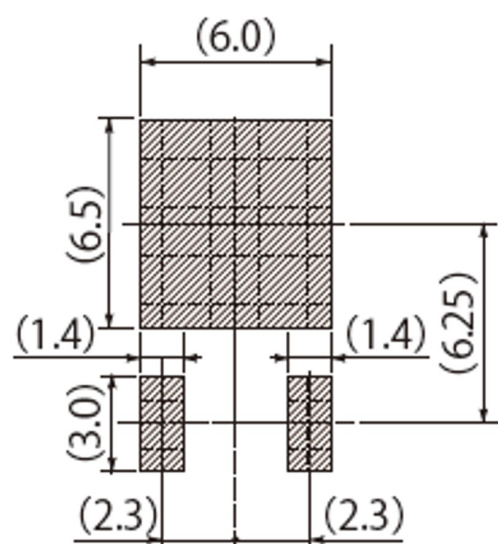
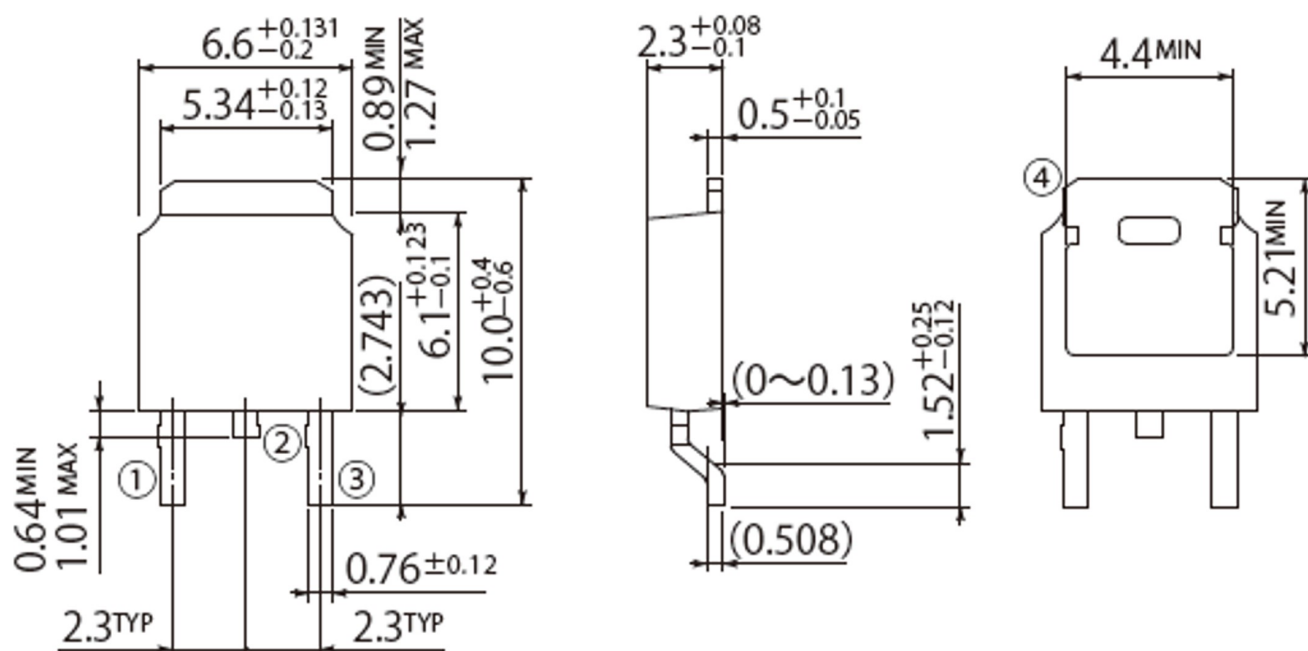






G2

| | |
|------------|----------|
| JEDEC Code | TO-252AA |
| JEITA Code | - |
| House Name | FB |



Referential Soldering Pad

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