

## / Descriptions

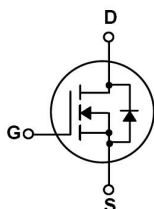
TO-220 MOSFET N-CHANNEL MOSFET in a TO-220 Plastic Package.

## / Features

Low gate charge, low crss, fast switching.

## / Applications

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.



PIN 1 G

PIN 2 D

PIN 3 S

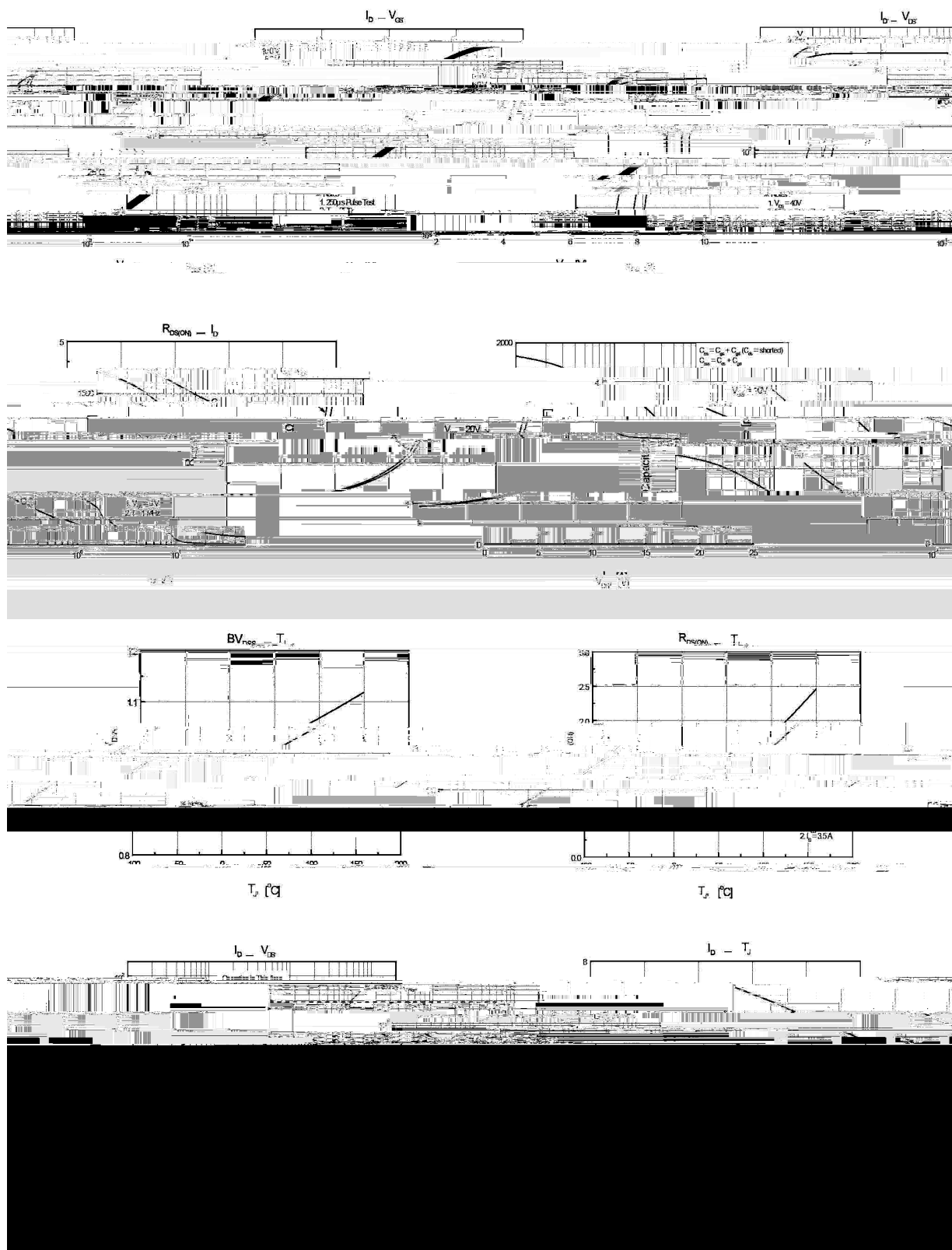
## / h<sub>FE</sub> Classifications & Marking

See Marking Instructions.

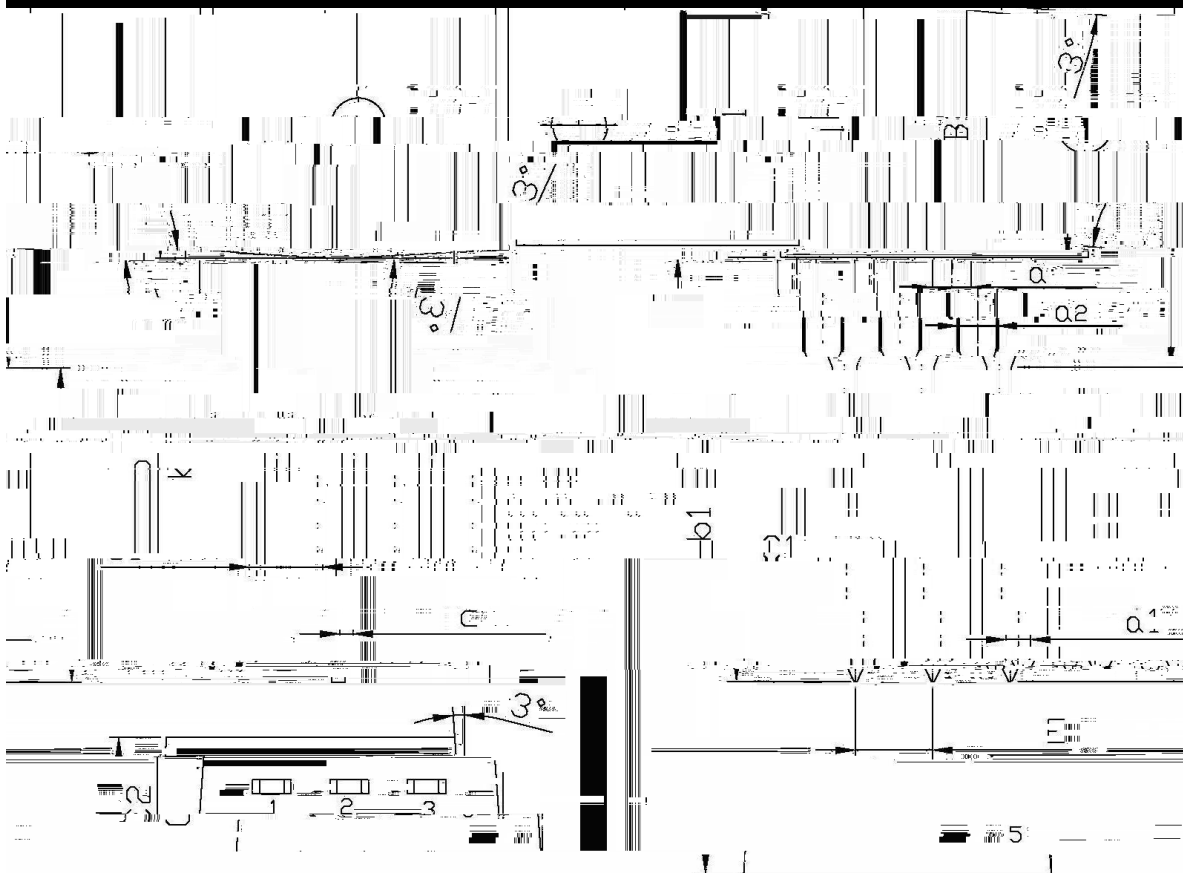
| Parameter                               | Symbol                       | Rating     | Unit |
|-----------------------------------------|------------------------------|------------|------|
| Drain-Source Voltage                    | $V_{DS}$                     | 650        | V    |
| Drain Current                           | $I_D(T_C=25^\circ\text{C})$  | 7.0        | A    |
| Drain Current                           | $I_D(T_C=100^\circ\text{C})$ | 4.4        | A    |
| Drain Current - Pulsed                  | $I_{DM}$                     | 28         | A    |
| Gate-Source Voltage                     | $V_{GS}$                     | $\pm 30$   | V    |
| Single Pulsed Avalanche Energy          | $E_{AS}$                     | 420        | mJ   |
| Repetitive Avalanche Energy             | $E_{AR}$                     | 14.7       | mJ   |
| Avalanche Current                       | $I_{AR}$                     | 7.0        | A    |
| Power Dissipation                       | $P_D(T_C=25^\circ\text{C})$  | 147        | W    |
| Operating and Storage Temperature Range | $T_J, T_{STG}$               | -55 to 150 |      |

| Parameter                          | Symbol       | Test Conditions                        | Min | Typ  | Max       | Unit     |
|------------------------------------|--------------|----------------------------------------|-----|------|-----------|----------|
| Drain-Source Breakdown Voltage     | $BV_{DS}$    | $V_{GS}=0V$ $I_D=250\mu A$             | 650 |      |           | V        |
| Zero Gate Voltage Drain Current    | $I_{DSS}$    | $V_{DS}=650V$ $V_{GS}=0V$              |     |      | 1.0       | $\mu A$  |
|                                    |              | $V_{DS}=520V$ $T_C=125^\circ\text{C}$  |     |      | 100       | $\mu A$  |
| Gate-Body Leakage Current, Forward | $I_{GSS}$    | $V_{GS}=\pm 30V$ $V_{DS}=0V$           |     |      | $\pm 100$ | nA       |
| Gate Threshold Voltage             | $V_{GS(th)}$ | $V_{DS}=V_{GS}$ $I_D=250\mu A$         | 2.0 |      | 4.0       | V        |
| Static Drain-Source On-Resistance  | $R_{DS(on)}$ | $V_{GS}=10V$ $I_D=3.5A$                |     |      | 1.3       | $\Omega$ |
| Forward Transconductance           | $g_{FS}$     | $V_{DS}=40V$ $I_D=3.5A$                |     | 8.2  |           | S        |
| Drain-Source Diode Forward Voltage | $V_{SD}$     | $V_{GS}=0V$ $I_S=7.0A$                 |     |      | 1.4       | V        |
| Input Capacitance                  | $C_{iss}$    | $V_{DS}=25V$ $V_{GS}=0V$<br>$f=1.0MHz$ |     | 1100 | 1500      | pF       |
| Output Capacitance                 | $C_{oss}$    |                                        |     | 110  | 150       | pF       |

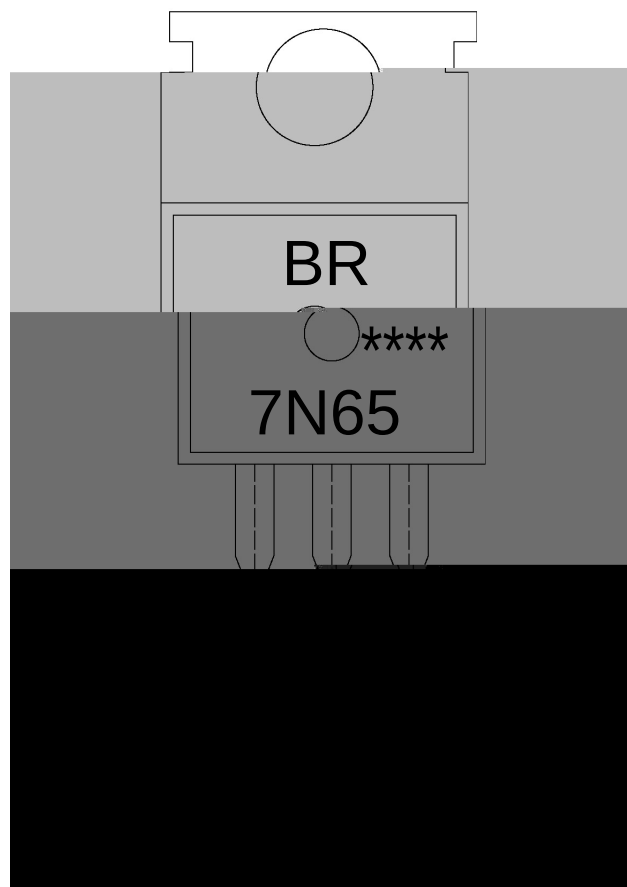
/ Electrical Characteristic Curve



[REDACTED]



## / Marking Instructions



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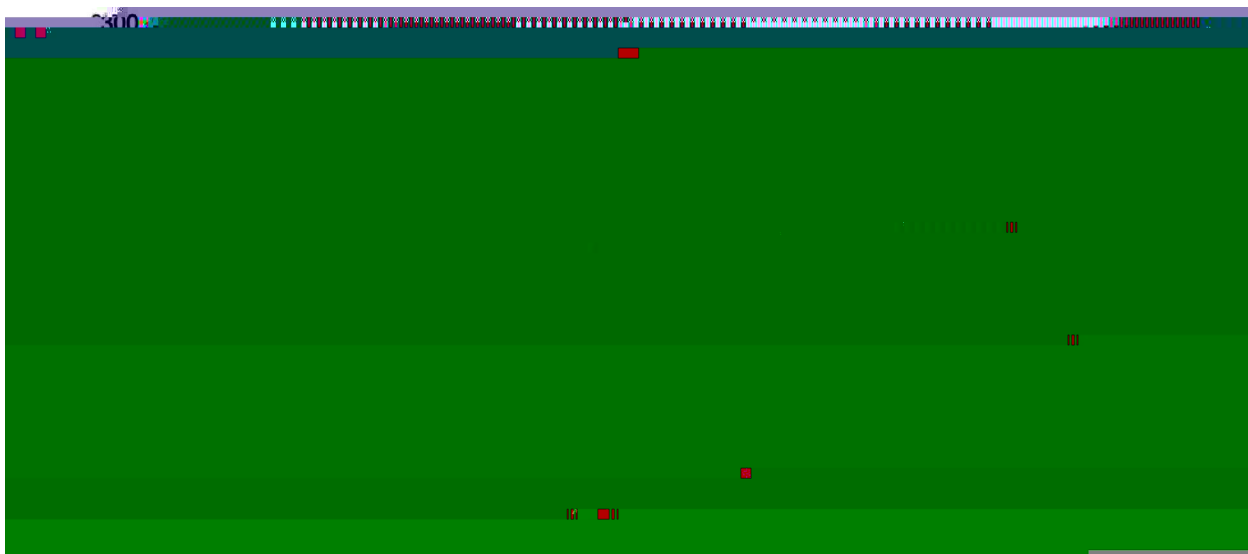
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Company Code

Product Type.

Lot No. Code, code change with Lot No.

( ) / Temperature Profile for Dip Soldering(Pb-Free)



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