TO-251 P MOS P-CHANNEL MOSFET in a TO-251 Plastic Package.

$R_{DS(on)}$ $C_{rss}$

Low $R_{DS(on)}$,low gate charge, low $C_{rss}$, fast switching.

DC/DC

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.

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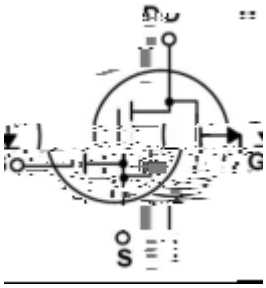
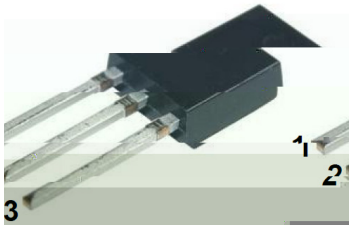



PIN1

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Input Capacitance | $C_{iss}$ | $V_{DS}$=-25V $V_{GS}$=0V f=1.0MHz | | 5110 | | pF |
| Output Capacitance | $C_{oss}$ | | | 198 | | |
| Reverse Transfer Capacitance | $C_{rss}$ | | | 131 | | |
| Gate resistance | $R_g$ | $V_{GS}$=0V $V_{DS}$=0V f=1MHz | | 3.87 | | |
| Total Gate Charge | $Q_g$(10V) | $V_{GS}$=-10V $V_{DS}$=-50V $I_D$=-20A | | 16.5 | 25 | nC |
| Total Gate Charge | $Q_g$(4.5V) | | | 7 | 12 | |
| Gate Source Charge | $Q_{gs}$ | | | 4.5 | | |
| Gate Drain Charge | $Q_{gd}$ | | | 2.5 | | |
| Turn-On Delay Time | $t_{d(on)}$ | $V_{GS}$=-10V $V_{DS}$=-50V $R_L$=2.5 $R_{GEN}$=23 | | 7 | | ns |
| Turn-On Rise Time | $t_r$ | | | 8 | | |
| Turn-Off Delay Time | $t_{d(off)}$ | | | 20 | | |
| Turn-Off Fall Time | $t_f$ | | | 3 | | |
| Body Diode Reverse Recovery Time | $t_{rr}$ | $I_F$=-20A dI/dt=500A/ms | | 30 | | ns |
| Body Diode Reverse Recovery Charge | $Q_{rr}$ | $I_F$=-20A dI/dt=500A/ms | | 145 | | nC |
| Maximum Junction-to-Ambient [A] | $R_{JA}$ | t 10s | | 16 | 20 | /W |
| Maximum Junction-to-Ambient [AD] | | teady-State | | 41 | 50 | /W |
| Maximum Junction-to-Case | $R_{JC}$ | teady-State | | 2.2 | 2.8 | /W |

A. The value of $R_{JA}$ is measured with the device mounted on 1in$^2$ FR-4 board with 2oz. Copper, in a still air environment with $T_A$ =25°C. The Power dissipation PDSM is based on R qJA and the maximum allowed junction temperature of 150°C. The value in any given application depends on the user's specific board design, and the maximum temperature of 150°C may be used if the PCB allows it.

B. The power dissipation PD is based on $T_{J(MAX)}$=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heatsinking is used.

C. Repetitive rating, pulse width

## / Electrical Characteristic Curve

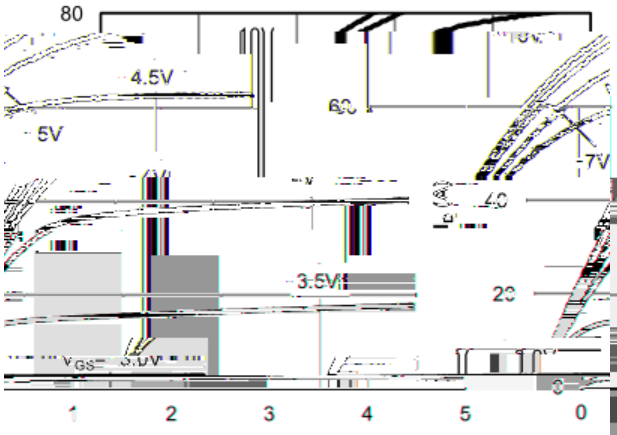
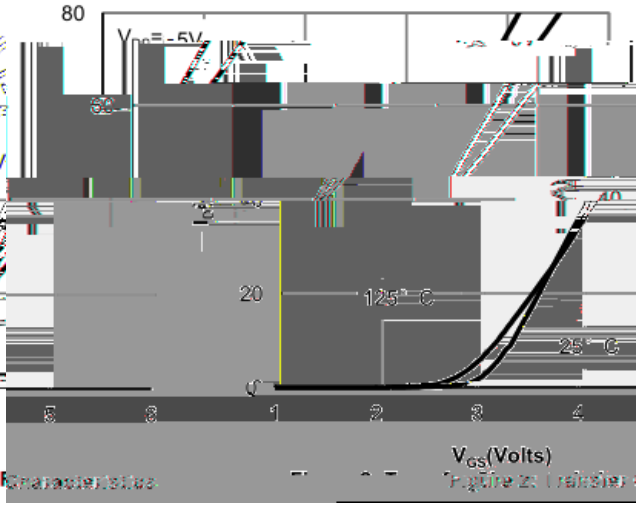
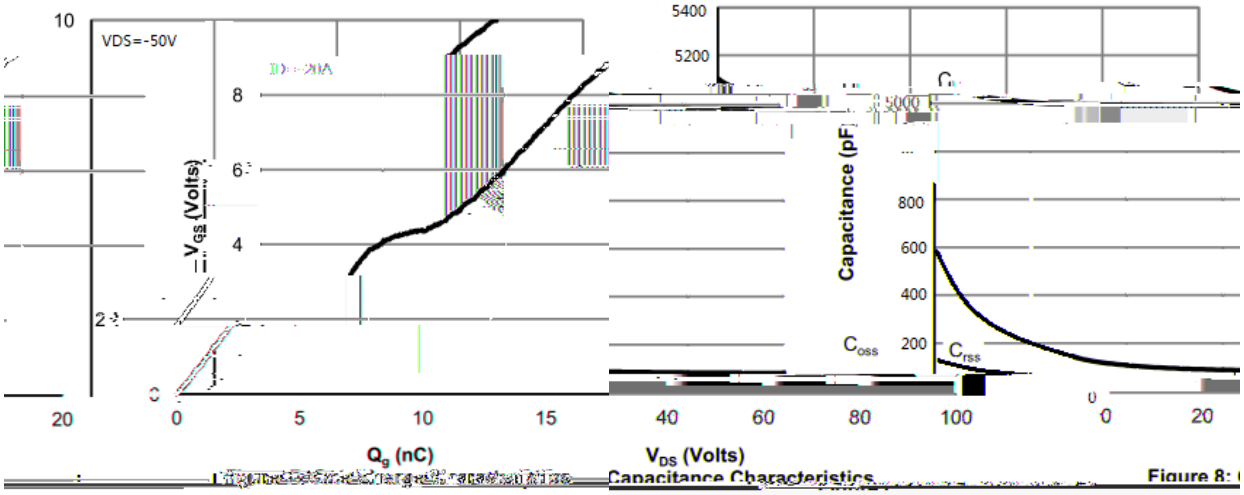



Fig 1: On-Region Characteristics

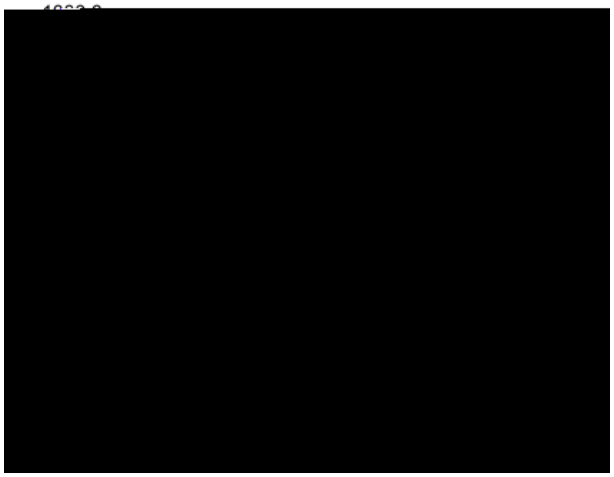


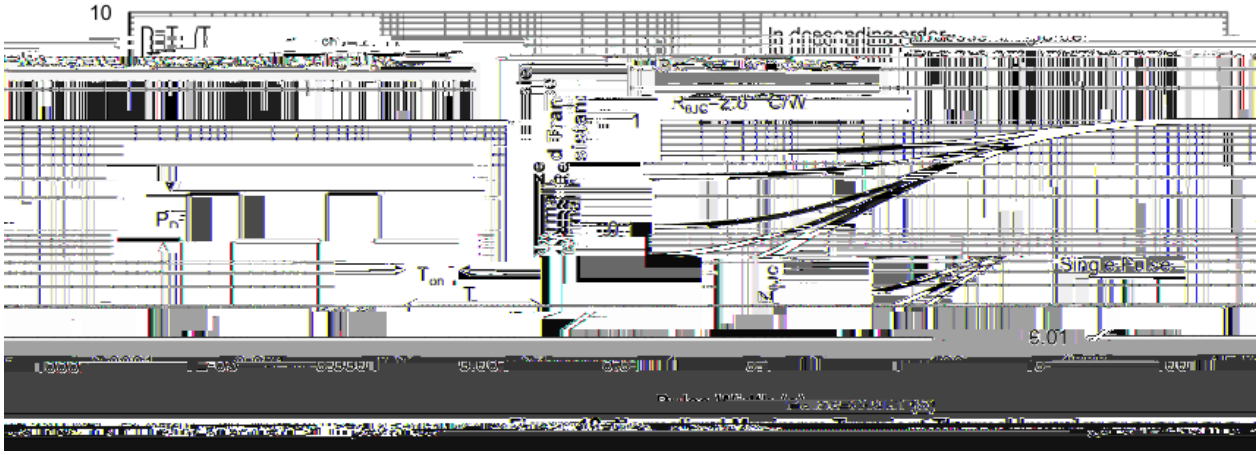
## / Electrical Characteristic Curve



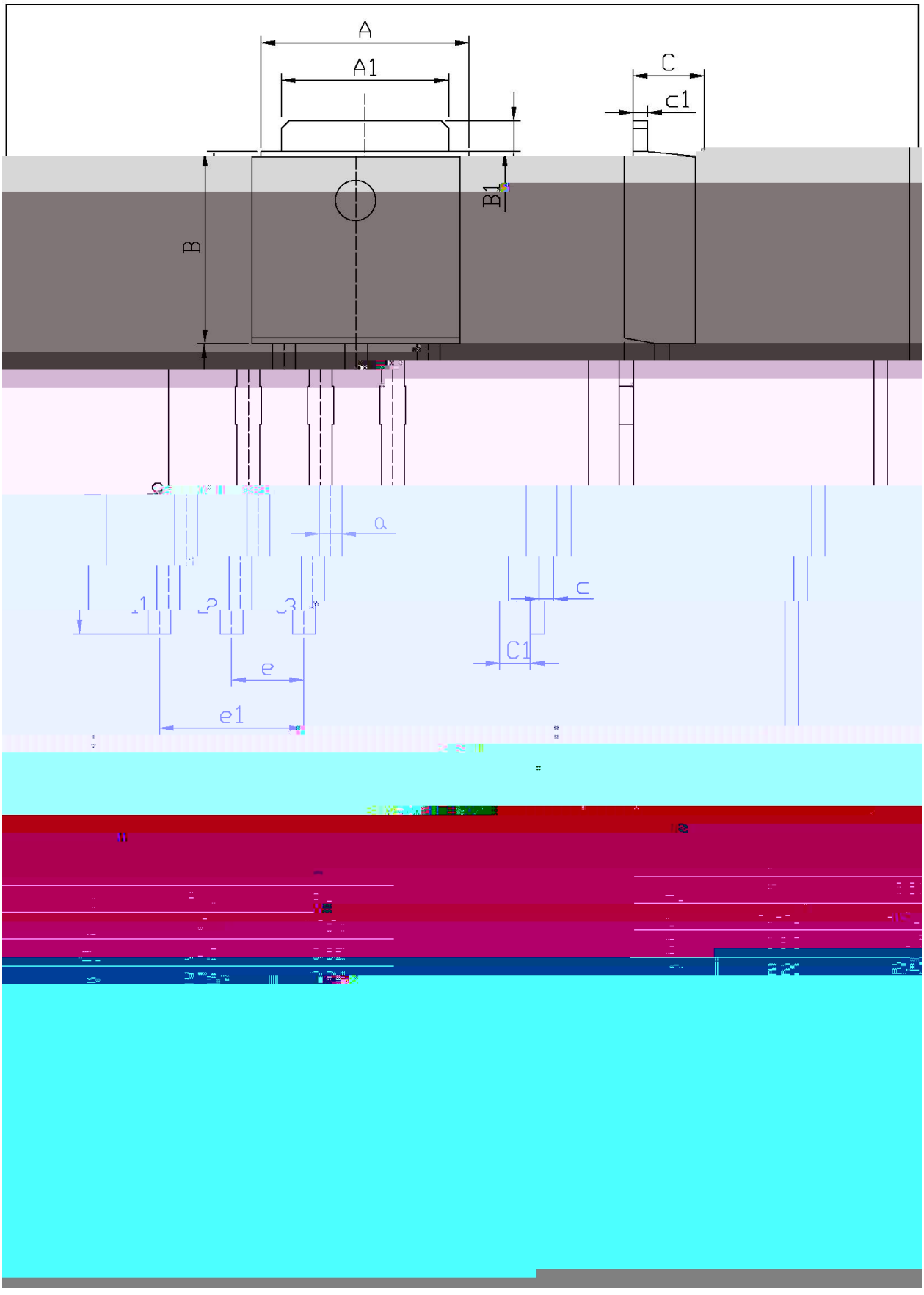

Capacitance Characteristics

Figure 8:

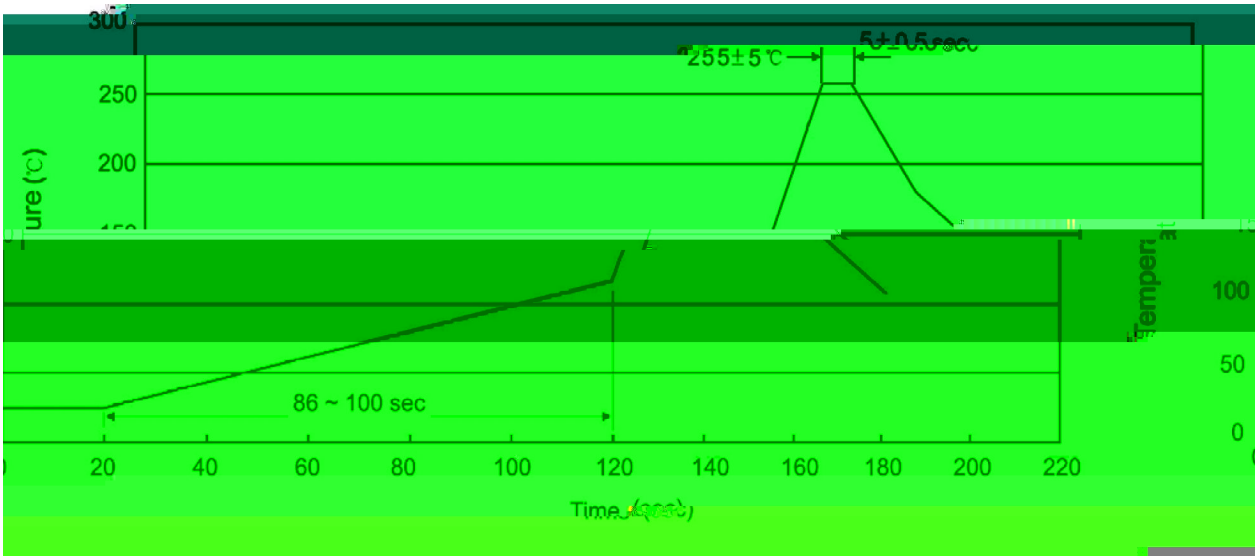




## / Package Dimensions



## ( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)




| | | | | | |
|---|---|---|---|---|---|
| | | | | Note: | |
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 255±5 | | | 5±0.5sec; | 2.Peak Temp.:255±5 , Duration:5±0.5sec. |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

## / Resistance to Soldering Heat Test Conditions

| | | | |
|---|---|---|---|
| 270±5 | 10±1 sec. | Temp.:270±5 | Time:10±1 sec |

## / Packaging SPEC.

/ REEL

| Package Type | Units | | | | | Dimension | | (unit mm$^3$) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |

/ TUBE

| Package Type | Units | | | | | Dimension | | (unit mm$^3$) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |

## / Notices