



## / Absolute Maximum Ratings(Tc=25 )

| Parameter                                                                     | Symbol            | Rating     | Unit |
|-------------------------------------------------------------------------------|-------------------|------------|------|
| Drain-Source Voltage                                                          | $V_{DS}$          | 650        | V    |
| Continuous DC Drain Current for $R_{th(j-c,typ.)}$ , Limited by $T_{VJ(max)}$ | $I_D(Tc=25)$      | 7          | A    |
|                                                                               | $I_D(Tc=100)$     | 5.7        | A    |
| Peak Drain Current, tp Limited by $T_{VJ(max)}$                               | $I_{DM}$          | 12         | A    |
| Gate-Source Max Voltage                                                       | $V_{GS,max}$      | -10/+22    | V    |
| Gate-Source Operate Voltage                                                   | $V_{GS,op}$       | 0/+15      | V    |
| Single Pulse Avalanche Energy                                                 | $E_{AS}$          | 10.2       | mJ   |
| Power Dissipation or $R_{th(j-c,typ.)}$                                       | $P_D(Tc=25)$      | 23         | W    |
| Operating and Storage Temperature Range                                       | $T_{VJ}, T_{STG}$ | -55 to 175 |      |
| MOSFET/Body Diode Junction-Case Thermal Resistance                            | $R_{th(j-c)}$     | 6.52       | /W   |

## / Electrical Characteristics(Tc=25 )

| Parameter                        | Symbol       | Test Conditions                                              | Min | Typ  | Max | Unit       |
|----------------------------------|--------------|--------------------------------------------------------------|-----|------|-----|------------|
| Drain-Source Breakdown Voltage   | $BV_{DSS}$   | $V_{GS}=0V$ $I_D=100\mu A$                                   | 650 |      |     | V          |
| Gate Threshold Voltage           | $V_{GS(th)}$ | $V_{DS}=V_{GS}$ $I_D=3.5mA$                                  | 3   |      | 5   | V          |
| Drain-Source Leakage Current     | $I_{DSS}$    | $V_{DS}=650V$ $V_{GS}=0V$                                    |     | 0.1  | 20  | $\mu A$    |
| Gate-Source Leakage Current      | $I_{GSS}$    | $V_{GS}=22V$ $V_{DS}=0V$                                     |     |      | 250 | nA         |
| Source-Gate Leakage Current      | $I_{SGS}$    | $V_{GS}=-10V$ $V_{DS}=0V$                                    |     |      | 250 | nA         |
| Drain-Source On-State Resistance | $R_{DS(on)}$ | $V_{GS}=15V$ $I_D=4A$                                        |     | 500  | 650 | m $\Omega$ |
|                                  |              | $V_{GS}=15V$ $I_D=4A$ $T_{VJ}=175$                           |     | 509  |     |            |
|                                  |              | $V_{GS}=18V$ $I_D=4A$                                        |     | 378  | 600 |            |
|                                  |              | $V_{GS}=18V$ $I_D=4A$ $T_{VJ}=175$                           |     | 454  |     |            |
| Body Diode Forward Voltage       | $V_{SD}$     | $V_{GS}=0V$ $I_S=2A$                                         |     | 3.8  |     | V          |
| Continuous DC Source Current     | $I_S$        |                                                              |     | 6    |     | A          |
| Peak Reverse Drain Current       | $I_{SM}$     |                                                              |     | 12   |     | A          |
| Reverse Recovery Time            | $t_{rr}$     | $V_{GS}=0V$ , $I_{SD}=4A$ ,<br>$V_R=400V$ , $di/dt=1.1kA/us$ |     | 7.9  |     | ns         |
| Reverse Recovery Charge          | $Q_{rr}$     |                                                              |     | 20   |     | nC         |
| Peak Reverse Recovery Current    | $I_{rrm}$    |                                                              |     | 4.2  |     | A          |
| Reverse Recovery Energy          | $E_{rr}$     |                                                              |     | 0.19 |     | $\mu J$    |

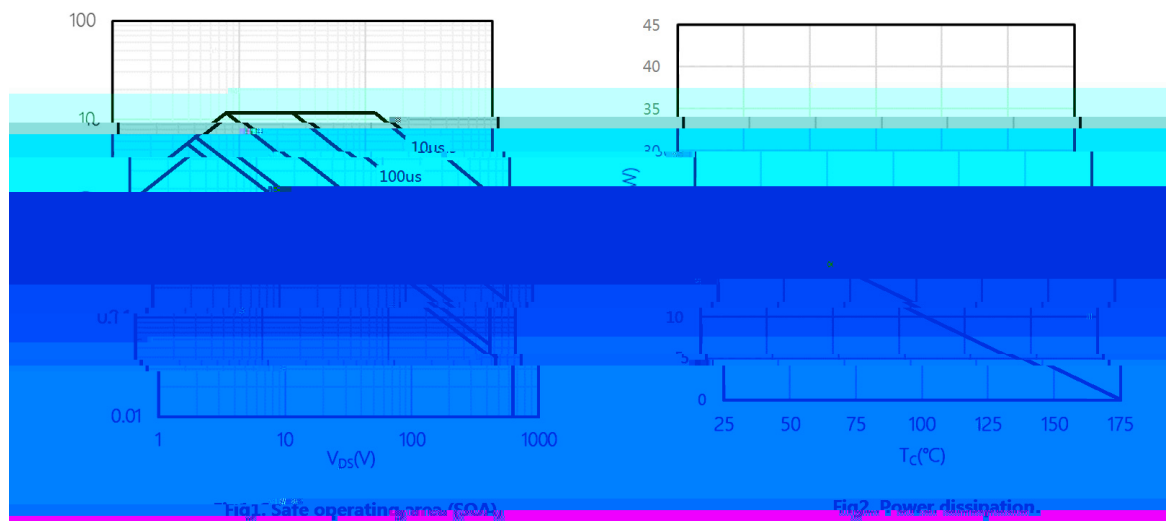
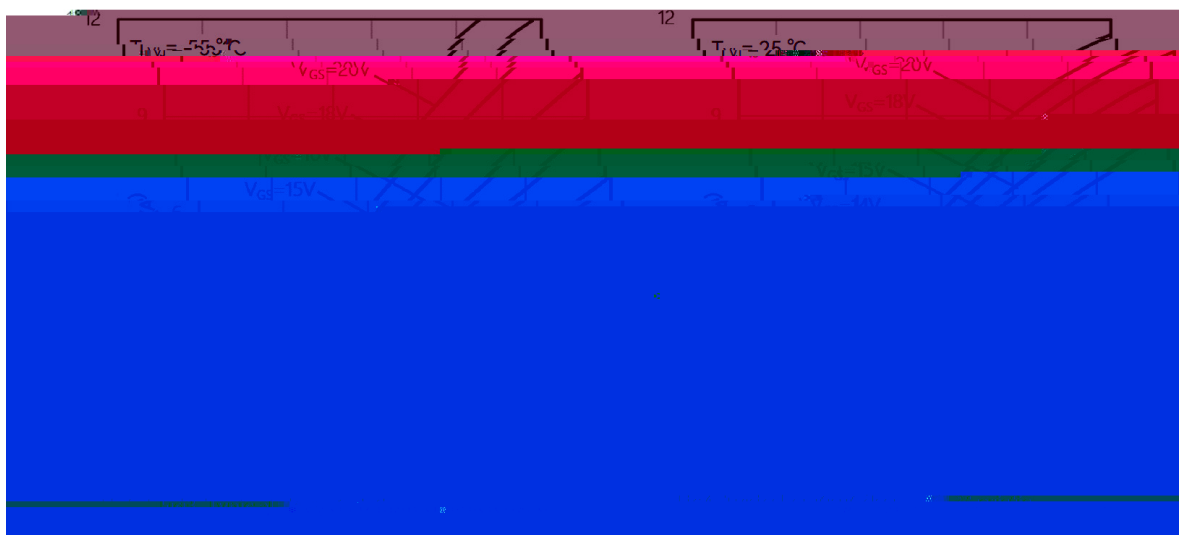
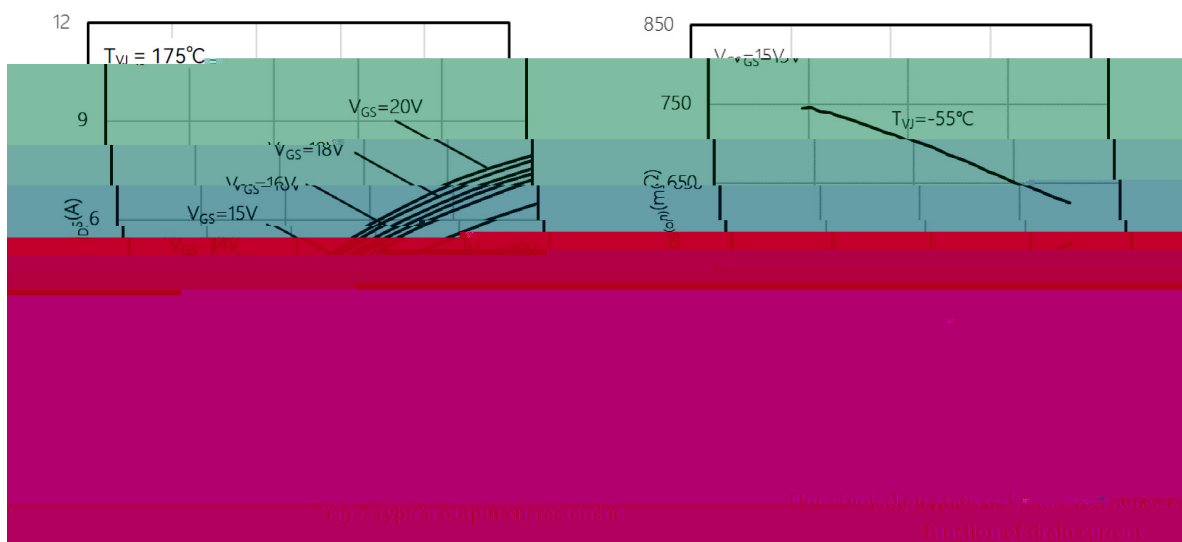
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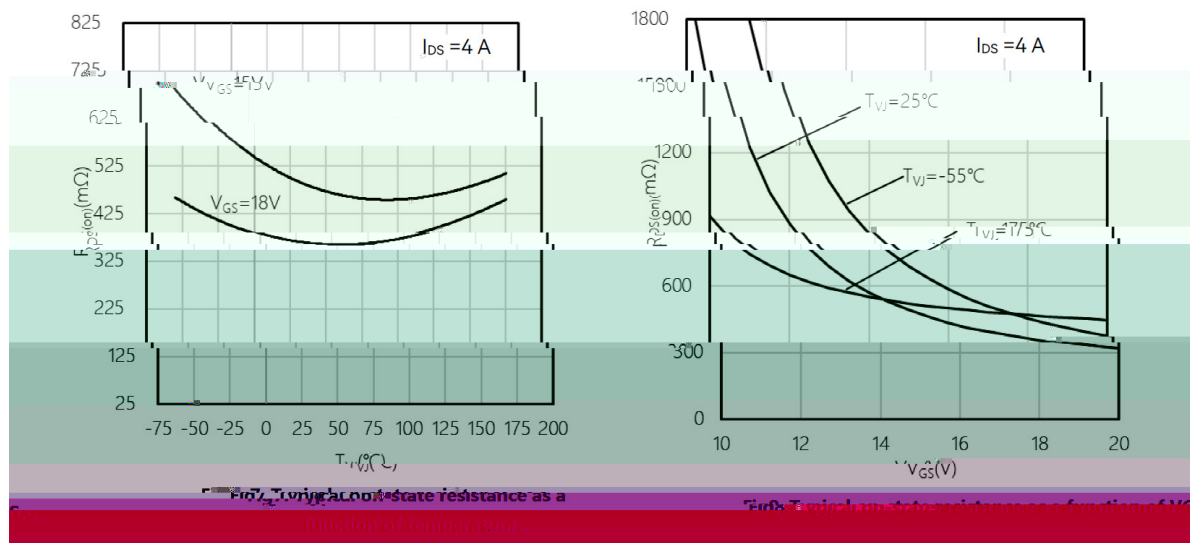
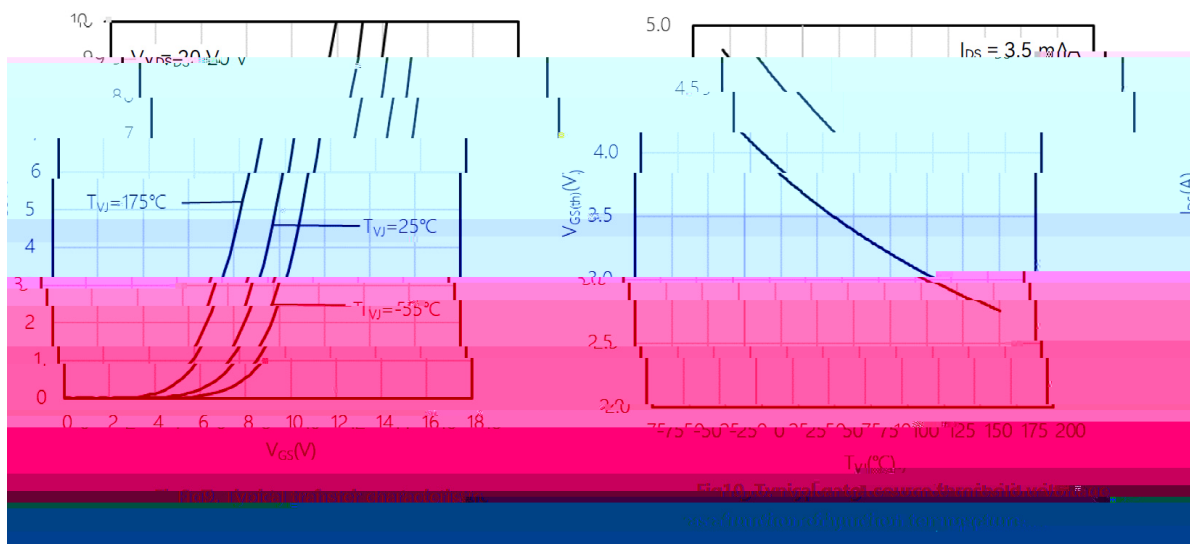
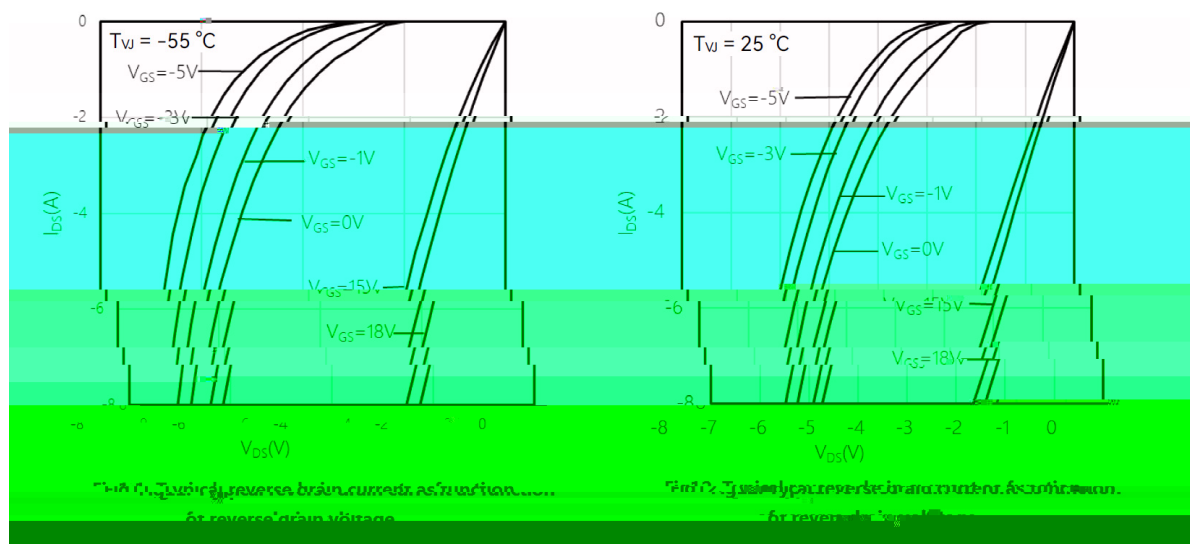
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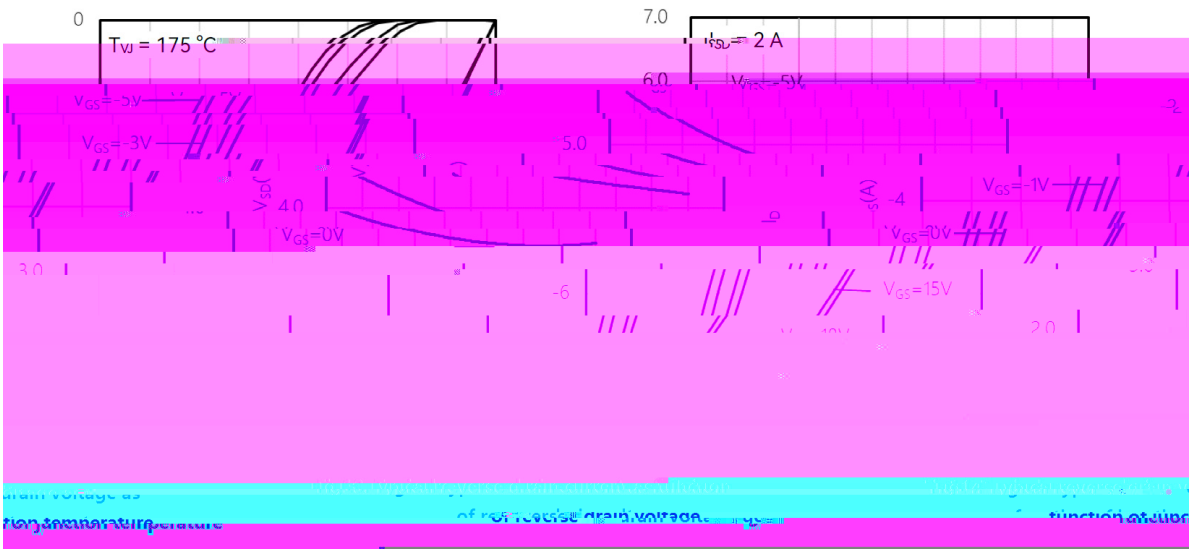
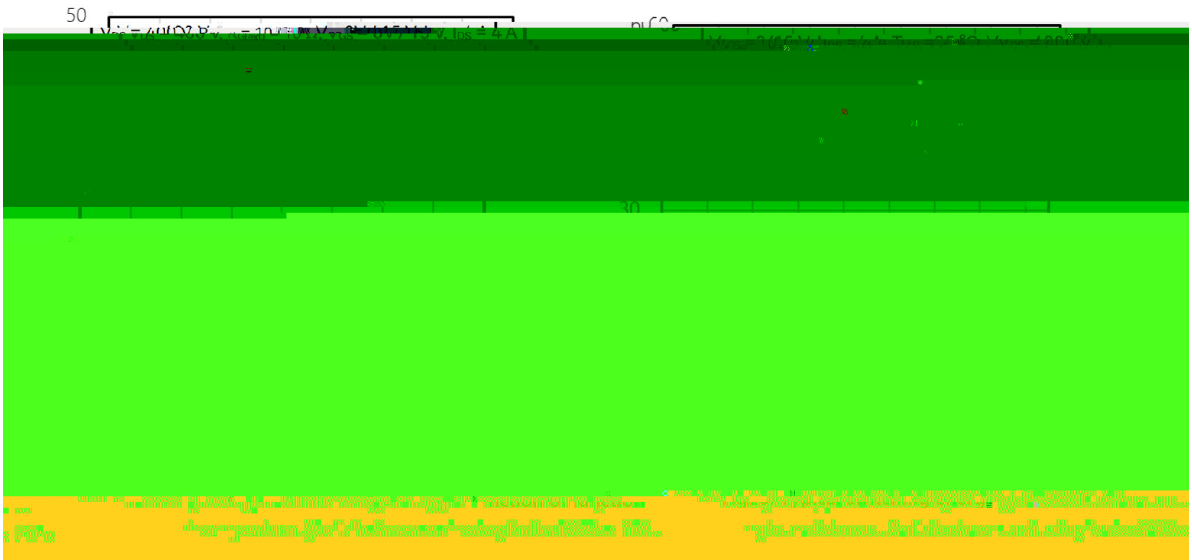
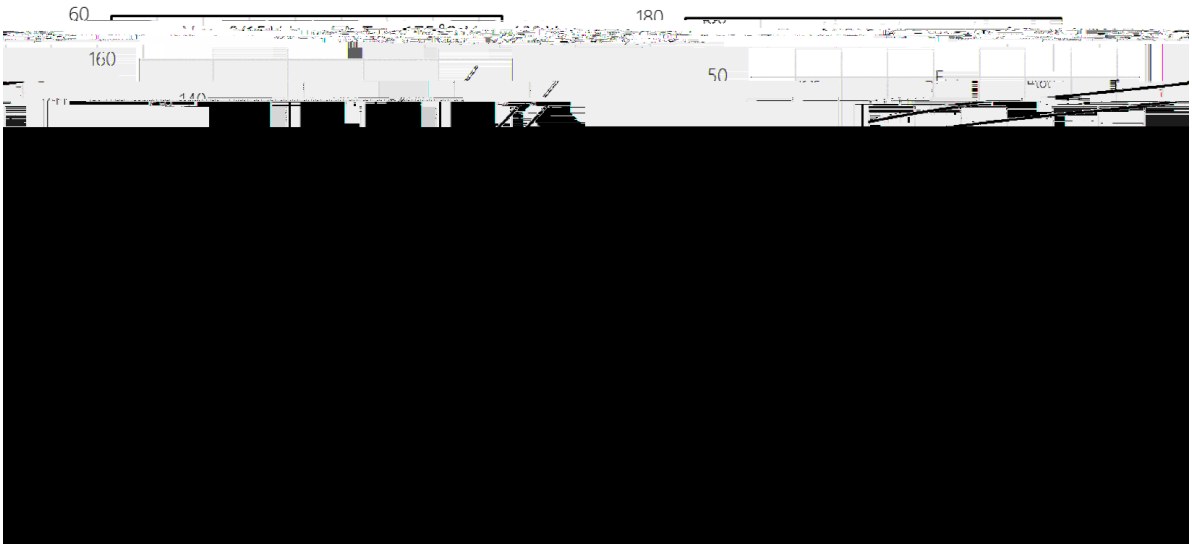
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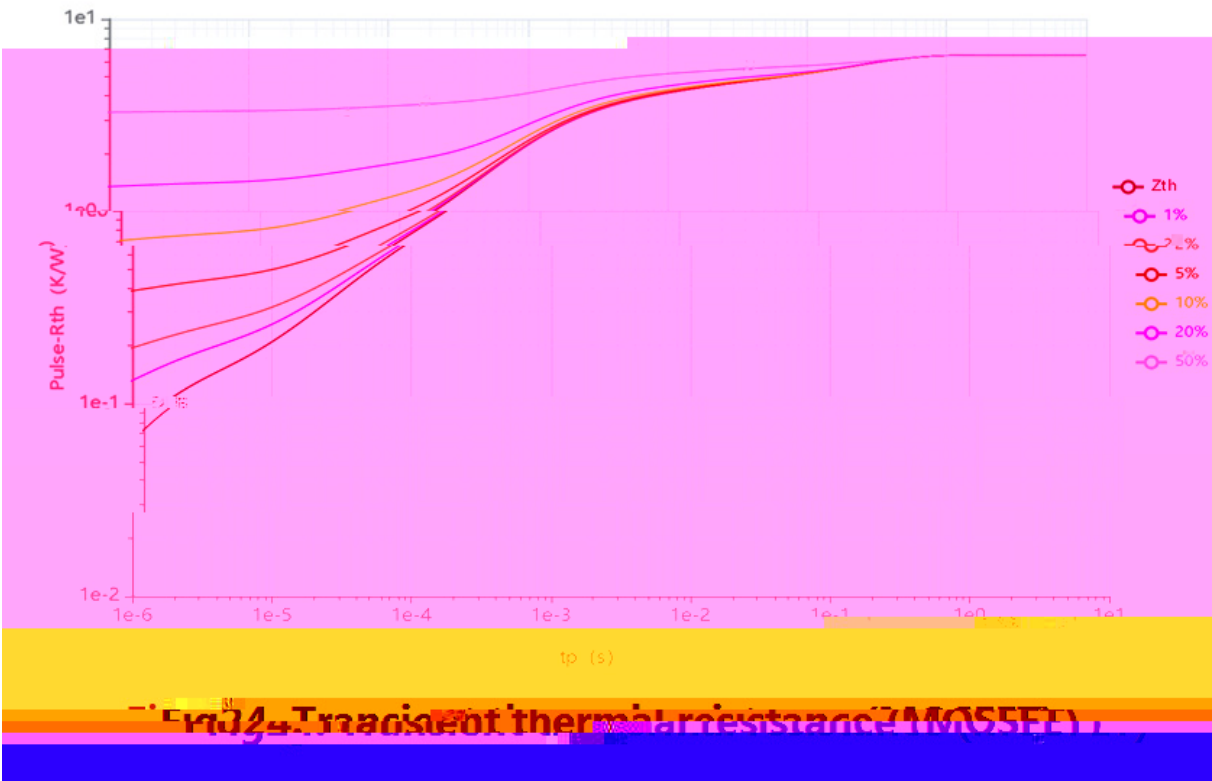
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