43A, 150V, 0.042 Ohm, N-Channel, UltraFET® Power MOSFET

Packaging

Symbols

Features

- Ultra Low On-Resistance
  \[ r_{DS(ON)} = 0.042\Omega, \quad V_{GS} = 10V \]
- Simulation Models
  - Temperature Compensated PSPICE® and SABER™ Electrical Models
  - Spice and SABER Thermal Impedance Models
  - www.fairchildsemi.com
- Peak Current vs Pulse Width Curve
- UIS Rating Curve

Ordering Information

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>PACKAGE</th>
<th>BRAND</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUF75842P3</td>
<td>TO-220AB</td>
<td>75842P</td>
</tr>
<tr>
<td>HUF75842S3S</td>
<td>TO-263AB</td>
<td>75842S</td>
</tr>
</tbody>
</table>

NOTE: When ordering, use the entire part number. Add the suffix T to obtain the variant in tape and reel, e.g., HUF75842S3ST.

Absolute Maximum Ratings \( T_C = 25^\circ C \), Unless Otherwise Specified

- Drain to Source Voltage (Note 1) \( V_{DSS} \) 150 V
- Drain to Gate Voltage (\( R_{GS} = 20k\Omega \)) (Note 1) \( V_{DGR} \) 150 V
- Gate to Source Voltage \( V_{GS} \) \pm 20 V
- Drain Current (Continuous \( T_C = 25^\circ C, V_{GS} = 10V \)) (Figure 2) \( I_D \) 43 A
- Drain Current (Continuous \( T_C = 100^\circ C, V_{GS} = 10V \)) (Figure 2) \( I_D \) 30 A
- Pulsed Drain Current \( I_{DM} \) Figure 4
- Pulsed Avalanche Rating \( UIS \) Figures 6, 14, 15
- Power Dissipation \( P_D \) 230 W
- Derate Above 25° C \( P_D \) 1.53 W/°C
- Operating and Storage Temperature \( T_J, T_{STG} \) -55 to 175 °C
- Maximum Temperature for Soldering Leads at 0.063in (1.6mm) from Case for 10s \( T_L \) 300 °C
- Package Body for 10s, See Techbrief TB334 \( T_{pkg} \) 260 °C

NOTES:
1. \( T_J = 25^\circ C \) to 150° C.

CAUTION: Stresses above those listed in “Absolute Maximum Ratings” may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied.

Product reliability information can be found at http://www.fairchildsemi.com/products/discrete/reliability/index.html

For severe environments, see our Automotive HUFA series.

All Fairchild semiconductor products are manufactured, assembled and tested under ISO9000 and QS9000 quality systems certification.
## Electrical Specifications

\( T_C = 25^\circ C, \) Unless Otherwise Specified

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>SYMBOL</th>
<th>TEST CONDITIONS</th>
<th>MIN</th>
<th>TYP</th>
<th>MAX</th>
<th>UNITS</th>
</tr>
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<tbody>
<tr>
<td><strong>OFF STATE SPECIFICATIONS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drain to Source Breakdown Voltage</td>
<td>( BV_{DSS} )</td>
<td>( I_D = 250\mu A, V_{GS} = 0V ) (Figure 11)</td>
<td>150</td>
<td>-</td>
<td>-</td>
<td>V</td>
</tr>
<tr>
<td>Zero Gate Voltage Drain Current</td>
<td>( I_{DSS} )</td>
<td>( V_DS = 140V, V_{GS} = 0V )</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>( \mu A )</td>
</tr>
<tr>
<td></td>
<td></td>
<td>( V_DS = 135V, V_{GS} = 0V, T_C = 150^\circ C )</td>
<td>-</td>
<td>-</td>
<td>250</td>
<td>( \mu A )</td>
</tr>
<tr>
<td>Gate to Source Leakage Current</td>
<td>( I_{GS} )</td>
<td>( V_{GS} = \pm 20V )</td>
<td>-</td>
<td>-</td>
<td>( \pm 100 )</td>
<td>nA</td>
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<tr>
<td><strong>ON STATE SPECIFICATIONS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gate to Source Threshold Voltage</td>
<td>( V_{GS(TH)} )</td>
<td>( V_{GS} = V_DS, I_D = 250\mu A ) (Figure 10)</td>
<td>2</td>
<td>-</td>
<td>4</td>
<td>V</td>
</tr>
<tr>
<td>Drain to Source On Resistance</td>
<td>( r_{DS(ON)} )</td>
<td>( I_D = 43A, V_{GS} = 10V ) (Figure 9)</td>
<td>-</td>
<td>0.035</td>
<td>0.042</td>
<td>( \Omega )</td>
</tr>
<tr>
<td><strong>THERMAL SPECIFICATIONS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal Resistance Junction to Case</td>
<td>( R_{thJC} )</td>
<td>TO-220, TO-263</td>
<td>-</td>
<td>-</td>
<td>0.65</td>
<td>( ^\circ C/W )</td>
</tr>
<tr>
<td>Thermal Resistance Junction to Ambient</td>
<td>( R_{thJA} )</td>
<td>-</td>
<td>-</td>
<td>62</td>
<td>( ^\circ C/W )</td>
<td></td>
</tr>
<tr>
<td><strong>SWITCHING SPECIFICATIONS</strong> ( (V_{GS} = 10V) )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turn-On Time</td>
<td>( t_{ON} )</td>
<td>( V_{DD} = 75V, I_D = 43A )</td>
<td>-</td>
<td>-</td>
<td>100</td>
<td>ns</td>
</tr>
<tr>
<td>Turn-On Delay Time</td>
<td>( t_{d(ON)} )</td>
<td>( V_{DD} = 75V, I_D = 43A )</td>
<td>-</td>
<td>13</td>
<td>-</td>
<td>ns</td>
</tr>
<tr>
<td>Rise Time</td>
<td>( t_r )</td>
<td>( V_{GS} = 10V, R_{GS} = 3.9\Omega ) (Figures 18, 19)</td>
<td>-</td>
<td>53</td>
<td>-</td>
<td>ns</td>
</tr>
<tr>
<td>Turn-Off Delay Time</td>
<td>( t_{d(OFF)} )</td>
<td>-</td>
<td>47</td>
<td>-</td>
<td>ns</td>
<td></td>
</tr>
<tr>
<td>Fall Time</td>
<td>( t_f )</td>
<td>-</td>
<td>34</td>
<td>-</td>
<td>ns</td>
<td></td>
</tr>
<tr>
<td>Turn-Off Time</td>
<td>( t_{OFF} )</td>
<td>-</td>
<td>-</td>
<td>120</td>
<td>ns</td>
<td></td>
</tr>
<tr>
<td><strong>GATE CHARGE SPECIFICATIONS</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Gate Charge</td>
<td>( Q_{g(TOT)} )</td>
<td>( V_{GS} = 0V ) to ( 20V ) ( V_{DD} = 75V, I_D = 43A, I_{g(REF)} = 1.0mA ) (Figures 13, 16, 17)</td>
<td>-</td>
<td>144</td>
<td>175</td>
<td>nC</td>
</tr>
<tr>
<td>Gate Charge at 10V</td>
<td>( Q_{g(10)} )</td>
<td>( V_{GS} = 0V ) to ( 10V )</td>
<td>-</td>
<td>77</td>
<td>90</td>
<td>nC</td>
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<tr>
<td>Threshold Gate Charge</td>
<td>( Q_{g(TH)} )</td>
<td>( V_{GS} = 0V ) to ( 2V )</td>
<td>-</td>
<td>5.6</td>
<td>6.7</td>
<td>nC</td>
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<tr>
<td>Gate to Source Gate Charge</td>
<td>( Q_{gs} )</td>
<td>-</td>
<td>12</td>
<td>-</td>
<td>nC</td>
<td></td>
</tr>
<tr>
<td>Gate to Drain &quot;Miller&quot; Charge</td>
<td>( Q_{gd} )</td>
<td>-</td>
<td>30</td>
<td>-</td>
<td>nC</td>
<td></td>
</tr>
<tr>
<td><strong>CAPACITANCE SPECIFICATIONS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input Capacitance</td>
<td>( C_{ISS} )</td>
<td>( V_{DS} = 25V, V_{GS} = 0V, f = 1MHz ) (Figure 12)</td>
<td>-</td>
<td>2730</td>
<td>-</td>
<td>( pF )</td>
</tr>
<tr>
<td>Output Capacitance</td>
<td>( C_{OSS} )</td>
<td>-</td>
<td>660</td>
<td>-</td>
<td>( pF )</td>
<td></td>
</tr>
<tr>
<td>Reverse Transfer Capacitance</td>
<td>( C_{RSS} )</td>
<td>-</td>
<td>230</td>
<td>-</td>
<td>( pF )</td>
<td></td>
</tr>
<tr>
<td><strong>Source to Drain Diode Specifications</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source to Drain Diode Voltage</td>
<td>( V_{SD} )</td>
<td>( I_{SD} = 43A )</td>
<td>-</td>
<td>-</td>
<td>1.25</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>( I_{SD} = 22A )</td>
<td>-</td>
<td>-</td>
<td>1.00</td>
<td>V</td>
</tr>
<tr>
<td>Reverse Recovery Time</td>
<td>( t_{rr} )</td>
<td>( I_{SD} = 43A, dI_{SD}/dt = 100A/\mu s )</td>
<td>-</td>
<td>-</td>
<td>190</td>
<td>ns</td>
</tr>
<tr>
<td>Reverse Recovered Charge</td>
<td>( Q_{RR} )</td>
<td>( I_{SD} = 43A, dI_{SD}/dt = 100A/\mu s )</td>
<td>-</td>
<td>-</td>
<td>1.08</td>
<td>( \mu C )</td>
</tr>
</tbody>
</table>
Typical Performance Curves

**FIGURE 1. NORMALIZED POWER DISSIPATION** vs CASE TEMPERATURE

**FIGURE 2. MAXIMUM CONTINUOUS DRAIN CURRENT** vs CASE TEMPERATURE

**FIGURE 3. NORMALIZED MAXIMUM TRANSIENT THERMAL IMPEDANCE**

**FIGURE 4. PEAK CURRENT CAPABILITY**

- **NOTE:** DUTY FACTOR: \( D = \frac{t_1}{t_2} \)
- PEAK \( T_J = P_{DM} \times Z_{JC} \times R_{JC} + T_C \)
- \( T_C = 25^\circ C \)
- FOR TEMPERATURES ABOVE 25\(^\circ\)C DERATE PEAK CURRENT AS FOLLOWS:
  \[ I = I_{25} \left( \frac{175 - T_C}{150} \right) \]
- **TRANSCONDUCTANCE** MAY LIMIT CURRENT IN THIS REGION

**V\(_{GS}\) = 10V**

- **POWER DISSIPATION MULTIPLIER**
- **I\(_D\), DRAIN CURRENT**
- **Z\(_{JC}\), NORMALIZED THERMAL IMPEDANCE**
- **I\(_{DM}\), PEAK CURRENT**
- **t, RECTANGULAR PULSE DURATION**
- **t, PULSE WIDTH**

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HUF75842P3, HUF75842S3S Rev. B
**Typical Performance Curves** (Continued)

**FIGURE 5. FORWARD BIAS SAFE OPERATING AREA**

- **Single Pulse**
  - $T_J = \text{MAX RATED}$
  - $T_C = 25^\circ\text{C}$
- **Operation in This Area May Be Limited by $r_{DS(ON)}$**

**FIGURE 6. UNCLAMPED INDUCTIVE SWITCHING CAPABILITY**

- **NOTE:** Refer to Fairchild Application Notes AN9321 and AN9322.

**FIGURE 7. TRANSFER CHARACTERISTICS**

- **Pulse Duration = 80\,\mu\text{s}**
- **Duty Cycle = 0.5% MAX**
- **$V_{DD} = 15\text{V}$**

**FIGURE 8. SATURATION CHARACTERISTICS**

- **Pulse Duration = 80\,\mu\text{s}**
- **Duty Cycle = 0.5% MAX**
- **$T_C = 25^\circ\text{C}$**

**FIGURE 9. NORMALIZED DRAIN TO SOURCE ON RESISTANCE vs JUNCTION TEMPERATURE**

- **Pulse Duration = 80\,\mu\text{s}**
- **Duty Cycle = 0.5% MAX**
- **$V_{GS} = 10\text{V}, I_D = 43\text{A}$**

**FIGURE 10. NORMALIZED GATE THRESHOLD VOLTAGE vs JUNCTION TEMPERATURE**

- **$V_{GS} = V_{DS}, I_D = 250\,\mu\text{A}$**
**Typical Performance Curves** (Continued)

**FIGURE 11.** NORMALIZED DRAIN TO SOURCE BREAKDOWN VOLTAGE vs JUNCTION TEMPERATURE

**FIGURE 12.** CAPACITANCE vs DRAIN TO SOURCE VOLTAGE

**FIGURE 13.** GATE CHARGE WAVEFORMS FOR CONSTANT GATE CURRENT

NOTE: Refer to Fairchild Application Notes AN7254 and AN7260.
Test Circuits and Waveforms

FIGURE 14. UNCLAMPED ENERGY TEST CIRCUIT

FIGURE 15. UNCLAMPED ENERGY WAVEFORMS

FIGURE 16. GATE CHARGE TEST CIRCUIT

FIGURE 17. GATE CHARGE WAVEFORMS

FIGURE 18. SWITCHING TIME TEST CIRCUIT

FIGURE 19. SWITCHING TIME WAVEFORM

VARY $t_p$ TO OBTAIN REQUIRED PEAK $I_{AS}$

0V

$V_GS$ $t_p$ $I_{AS}$ $L$ $0.01\Omega$ $V_{DD}$

$V_{DS}$

FIGURE 14. UNCLAMPED ENERGY TEST CIRCUIT

$V_{DD}$ $Q_g(TOT)$ $V_GS = 20V$

$V_{DS}$ $Q_g(TH)$ $V_{GS} = 10V$

$V_{DD}$ $Q_g(d)$ $V_{GS} = 2V$

$V_{GS} = 10V$

$V_{DD}$

$V_GS$ $I_{g(REF)}$

$R_L$ $DUT$

FIGURE 16. GATE CHARGE TEST CIRCUIT

$V_{DD}$ $Q_g(TOT)$ $V_GS = 20V$

$V_{DS}$ $Q_g(TH)$ $V_{GS} = 10V$

$V_{DD}$ $Q_g(d)$ $V_{GS} = 2V$

$V_{GS} = 10V$

$V_{DD}$

$V_GS$ $I_{g(REF)}$

$R_L$ $DUT$

FIGURE 17. GATE CHARGE WAVEFORMS

$V_{DD}$ $t_{ON}$ $t_{d(ON)}$ $t_r$

$V_{DS}$ $90\%$

$V_{GS}$

$V_{DD}$ $10\%$

$V_{GS}$ $10\%$

$V_{GS}$ $0$

$10\%$

$V_{GS}$ $50\%$

$V_{GS}$ $90\%$

$V_{DS}$ $10\%$

$PULSE$ $WIDTHTH$

$50\%$

$90\%$

$10\%$

$0$

FIGURE 18. SWITCHING TIME TEST CIRCUIT

FIGURE 19. SWITCHING TIME WAVEFORM
PSPICE Electrical Model

.SUBCKT HUF75842 2 1 3 ; rev 13 October 1999

CA 12 8 4.10e-9
CB 15 14 4.10e-9
CIN 6 8 2.50e-9

DBODY 7 5 DBODYMOD
DBREAK 5 11 DBREAKMOD
DPLCAP 10 5 DPLCAPMOD

EBREAK 11 7 17 18 157.5
ECS 14 8 5 8 1
EGS 13 8 6 8 1
ESG 6 10 6 8 1
EVTHRES 6 21 19 8 1
EVTEMP 20 6 18 22 1

IT 8 17 1
LDRAIN 2 5 1.0e-9
LGATE 1 9 4.86e-9
LSOURCE 3 7 2.01e-9

MMED 16 8 8 MMEDMOD
MSTRO 16 6 8 8 MSTROMOD
MWEAK 16 21 8 8 MWEAKMOD

RBREAK 17 18 RBREAKMOD 1
RDRAIN 50 16 RDRAINMOD 2.72e-2
RGATE 9 20 0.73
RLDRAIN 2 5 10
RLGATE 1 9 48.6

RSLC1 5 51 RSLCMOD 1e-6
RSLC2 5 50 1e3

RSOURCE 8 7 RSOURCEMOD 3.58e-3
RVTHRES 22 8 RVTHRESMOD 1
RVTEMP 18 19 RVTEMPMOD 1

S1A 6 12 13 8 S1AMOD
S1B 13 12 13 8 S1BMOD
S2A 6 15 14 13 S2AMOD
S2B 13 15 14 13 S2BMOD

Vباط 22 19 DC 1

ESLC 51 50 VALUE=[(V(5,51)/ABS(V(5,51)))*(PWR(V(5,51))/(1e-688),3.5))]

.MODEL DBODYMOD D (IS = 2.25e-12 RS = 2.45e-3 IFK=14 XTI = 5 TR1 = 2.7e-3 TRS2 = 0 CJO = 2.60e-9 TT = 1.22e-7 M = 0.55)
.MODEL DBREAKMOD D (RS = 6.50e-3 TRS1 = 1e-3 TRS2 = 1e-6)
.MODEL DPLCAPMOD D (CJO = 3.30e-9 IS = 1e-3 0M = 0.82)
.MODEL MMEDMOD NMOS (VTO = 3.20 KP = 6 IS = 1e-10 N = 10 TOX = 1 1u W = 1u RG = 0.73)
.MODEL MSTROMOD NMOS (VTO = 3.63 KP = 86 IS = 1e-10 N = 10 TOX = 1 1u W = 1u)
.MODEL MWEAKMOD NMOS (VTO = 2.78 KP = 0.10 IS = 1e-30 N = 10 TOX = 1 1u W = 1u RG = 7.30)
.MODEL RBREAKMOD RES (TC1 = 1.02e-3 TC2 = 0)
.MODEL RDRAINMOD RES (TC1 = 9.40e-3 TC2 = 2.70e-5)
.MODEL RSLCMOD RES (TC1 = 4.10e-3 TC2 = 4.00e-6)
.MODEL RSOURCEMOD RES (TC1 = 1.0e-3 TC2 = 1e-6)
.MODEL RVTHRESMOD RES (TC1 = 2.57e-3 TC2 = 7.05e-6)
.MODEL RVTEMPMOD RES (TC1 = 2.57e-3 TC2 = 9.00e-7)

.MODEL S1AMOD VSWITCH (RON = 1e-5 ROFF = 0.1 VON = -5.8 VOFF = -2.4)
.MODEL S1BMOD VSWITCH (RON = 1e-5 ROFF = 0.1 VON = -2.4 VOFF = -5.8)
.MODEL S2AMOD VSWITCH (RON = 1e-5 ROFF = 0.1 VON = 1.8 VOFF = 5.0)
.MODEL S2BMOD VSWITCH (RON = 1e-5 ROFF = 0.1 VON = 0.5 VOFF = -1.8)

.ENDS

SABER Electrical Model

REV 13 October 1999

template huf75842 n2,n1,n3
electrical n2,n1,n3
{
  var i iscl
d..model dbodymod = (is = 2.25e-12, cjo = 2.60e-9, tt = 1.22e-7, xti = 5, m = 0.55)
d..model dbreakmod = ()
m..model mmedmod = (type=_n, vto = 3.20, kp = 6, is = 1e-30, tox = 1)
m..model mstrongmod = (type=_n, vto = 3.63, kp = 86, is = 1e-30, tox = 1)
m..model mweakmod = (type=_n, vto = 2.78, kp = 0.10, is = 1e-30, tox = 1)
sw_vcsp..model s1amod =  (ron = 1e-5, roff = 0.1, von = -5.8, voff = -2.4)
sw_vcsp..model s1bmod =  (ron =1e-5, roff = 0.1, von = -2.4, voff = -5.8)
sw_vcsp..model s2amod =  (ron = 1e-5, roff = 0.1, von = -1.8, voff = 0.5)
sw_vcsp..model s2bmod = (ron = 1e-5, roff = 0.1, von = 0.5, voff = -1.8)
c.ca n12 n8 = 4.10e-9
c.cb n15 n14 = 4.10e-9
c.cin n6 n8 = 2.50e-9
d.dbreak n72 n11 = model=dbreakmod
d.dplcap n10 n5 = model=dplcapmod
i.it n8 n17 = 1
l.ldrain n2 n5 = 1e-9
l.lgate n1 n9 = 4.86e-9
l.isource n3 n7 = 2.01e-9
m.mmed n16 n6 n8 n8 = model=mmedmod, l=1u, w=1u
m.mstrong n16 n6 n8 n8 = model=mstrongmod, l=1u, w=1u
m.mweak n16 n21 n8 n8 = model=mweakmod, l=1u, w=1u
res.rbreak n17 n18 = 1, tc1 = 1.02e-3, tc2 = 0
res.rdrain n50 n16 = 2.22e-2, tc1 = 9.40e-3, tc2 = 2.70e-5
res.rgate n9 n20 = 0.73
res.rfgate n1 n9 = 48.6
res.rsourse n3 n7 = 20.1
res.rslc1 n5 n51 = 3.58e-3, tc1 = -2.57e-3, tc2 = -7.05e-6
res.rvtemp n20 n6 n18 n22 = 1
spe.eds n14 n8 n5 n8 = 1
spe.esg n6 n10 n6 n8 = 1
spe.evtemp n20 n6 n18 n22 = 1
spe.evthres n6 n21 n19 n8 = 1
sw_vcsp.s1a n6 n12 n3 n8 = model=s1amod
sw_vcsp.s1b n13 n12 n13 n8 = model=s1bmod
sw_vcsp.s2a n6 n15 n14 n13 = model=s2amod
sw_vcsp.s2b n13 n15 n14 n13 = model=s2bmod
v.vbat n22 n19 = dc=1
equations {
  i (n51->n50) =+iscl
  iscl: v(n51,n50) = ((v(n5,n51)/(1e-9+abs(v(n5,n51))))*abs(v(n5,n51)*1e6/88))** 3.5)
}
}
**SPICE Thermal Model**

REV 13 October 1999

HUF75842T

CTHERM1 th 6 5.20e-3
CTHERM2 6 5 2.40e-2
CTHERM3 5 4 2.00e-2
CTHERM4 4 3 1.80e-2
CTHERM5 3 2 2.40e-2
CTHERM6 2 tl 1.80e-1

RThERM1 th 6 1.00e-2
RThERM2 6 5 2.00e-2
RThERM3 5 4 6.40e-2
RThERM4 4 3 1.00e-1
RThERM5 3 2 1.56e-1
RThERM6 2 tl 1.65e-1

**SABER Thermal Model**

SABER thermal model HUF75842T

template thermal_model th tl
thermal_c th, tl
{
  ctherm.ctherm1 th 6 = 5.20e-3
  ctherm.ctherm2 6 5 = 2.40e-2
  ctherm.ctherm3 5 4 = 2.00e-2
  ctherm.ctherm4 4 3 = 1.80e-2
  ctherm.ctherm5 3 2 = 2.40e-2
  ctherm.ctherm6 2 tl = 1.80e-1

  rtherm.rtherm1 th 6 = 1.00e-2
  rtherm.rtherm2 6 5 = 2.00e-2
  rtherm.rtherm3 5 4 = 6.40e-2
  rtherm.rtherm4 4 3 = 1.00e-1
  rtherm.rtherm5 3 2 = 1.56e-1
  rtherm.rtherm6 2 tl = 1.65e-1
}
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Bottomless™  FAST®  OPTOPLANAR™  VCX™
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CROSSVOLT™  FRFET™  POP™  Stealth™
DenseTrench™  GTO™  Power24™  SuperSOT™-3
DOME™  HiSeC™  PowerTrench®  SuperSOT™-6
EcoSPARK™  ISOPLANAR™  QFET™  SuperSOT™-8
EnSigna™  MicroFET™  QS™  SyncFET™
FACT™  MicroPak™  QT Optoelectronics™  TinyLogic™
FACT Quiet Series™  MICROWIRE™  Quiet Series™  TruTranslation™
FACT™  MICROWIRE™  SILENT SWITCHER®  UHC™

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

<table>
<thead>
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<th>Datasheet Identification</th>
<th>Product Status</th>
<th>Definition</th>
</tr>
</thead>
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<td>Advance Information</td>
<td>Formative or In Design</td>
<td>This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.</td>
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<td>Preliminary</td>
<td>First Production</td>
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