The following IR Power MOSFET safe operating area (SOA) curves have been updated with the Direct Current (DC) mode curve.

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Visit the IR website under the Alerts & Notifications section for current updates.

IRHNJ67230

Operation in this area limited by RDS(on)

$V_{DS}$, Drain-to-Source Voltage (V)

$I_D$, Drain Current (A)

$T_C = 25^{\circ}C$

$T_J = 150^{\circ}C$

Single Pulse

$100 \mu s$

$1 ms$

$10 ms$

DC

Operation in this area limited by RDS(on)
IRHLNA77064 - SOA CURVE

OPERATION IN THIS AREA LIMITED BY $R_{DS\text{(on)}}$

- $T_c = 25°C$
- $T_j = 150°C$
- Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)

$\text{I}_D$, Drain-to-Source Current (A)
IRHY57Z30CM - SOA CURVE

\[ V_{DS}, \text{ Drain-to-Source Voltage (V)} \]

\[ I_{D}, \text{ Drain-to-Source Current (A)} \]

- \( T_c = 25^\circ C \)
- \( T_j = 150^\circ C \)
- Single Pulse

**Note:**
- Operation in this area limited by \( R_{DS(on)}^{-} \)
IRHLNA797064 - SOA CURVE

- $I_D$, Drain-to-Source Current (A)
- $V_{DS}$, Drain-to-Source Voltage (V)

- OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$
- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse

- $100\mu s$
- $1ms$
- $10ms$
- DC
IRHM9260 - SOA CURVE

- $I_D$, Drain-to-Source Current (A)
- $-V_{DS}$, Drain-to-Source Voltage (V)

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

$T_c = 25^\circ C$
$T_j = 150^\circ C$
Single Pulse

100μs
1ms
10ms
DC
Operation in this area limited by RDS(on)
IRHMS597260 - SOA CURVE

Operation in this area limited by $R_{DS(on)}$.

-$I_D$ vs. $-V_{DS}$, Drain-to-Source Voltage (V)

$T_c = 25^\circ C$

$T_i = 150^\circ C$

Single Pulse
IRHN9250 - SOA CURVE

Operation in this area limited by $R_{DS(on)}$. 

$V_{DS}$, Drain-to-Source Voltage (V) 

$-I_D$, Drain-to-Source Current (A) 

$T_c = 25^\circ C$ 

$T_j = 150^\circ C$ 

Single Pulse 

100$\mu s$, 1ms, 10ms
IRHNA57260SE - SOA CURVE

![Diagram showing the SOA curve with operation limited by $R_{DS(on)}$.](image-url)

- **$I_D$, Drain-to-Source Current (A)**
- **$V_{DS}$, Drain-to-Source Voltage (V)**

**Specifications**:
- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse

**Time Intervals**:
- 100µs
- 1ms
- 10ms

**Limitations**:
- Operation in this area is limited by $R_{DS(on)}$. 

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IRHNJ67130

Operation in this area limited by RDS(on)

Operation in this area limited by RDS(on)

$V_{DS}$, Drain-to-Source Voltage (V)

$I_D$, Drain Current (A)

$T_C = 25^\circ C$
$T_J = 150^\circ C$
Single Pulse

100µs
1ms
10ms
DC
IRHNJ597034 - SOA CURVE
IRHNJ57130 - SOA CURVE

 OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

$T_c = 25^\circ C$
$T_I = 150^\circ C$
Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)
IRHNJ597130 - SOA CURVE

-\text{I}_D$, Drain-to-Source Current (A)

-\text{V}_{DS}$, Drain-to-Source Voltage (V)

OPERATION IN THIS AREA
LIMITED BY $R_{DS(on)}$

$T_c = 25^\circ C$
$T_J = 150^\circ C$
Single Pulse

$100\mu s$
$1\text{ms}$
$10\text{ms}$

DC
IRHM9064 - SOA CURVE
IRHNA597160 - SOA CURVE

-\( V_{DS} \), Drain-to-Source Voltage (V)

-\( I_{D} \), Drain-to-Source Current (A)

OPERATION IN THIS AREA LIMITED BY \( R_{DS(on)} \)

-100μs

-1ms

-10ms

-DC

\( T_c = 25^\circ C \)

\( T_j = 150^\circ C \)

Single Pulse
IRHNJ57034 - SOA CURVE

![SOA Curve Diagram](image)

- OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$
- Tc = 25°C
- Tj = 150°C
- Single Pulse
- DC

$V_{DS}$, Drain-to-Source Voltage (V)

$\log_{10}$ (Drain-to-Source Current (A))
IRHNJ57Z30 - SOA CURVE

Operation in this area limited by $R_{DS(on)}$.

$T_c = 25^\circ C$
$T_j = 150^\circ C$
Single Pulse
IRHNA597Z60 - SOA CURVE

Operation in this area is limited by $R_{DS(on)}$. The graph shows the relationship between drain-to-source current ($I_D$) and drain-to-source voltage ($V_{DS}$) for different time intervals ($100\mu s$, $1\text{ ms}$, $10\text{ ms}$) under the following conditions:

- $T_c = 25^\circ\text{C}$
- $T_j = 150^\circ\text{C}$

The graph indicates the safe operating area for the device under single pulse conditions.
IRHNJ57234SE - SOA CURVE

- Operation in this area limited by $I_{DS(on)}$
- DC
- $V_{DS}$, Drain-to-Source Voltage (V)
- $I_D$, Drain-to-Source Current (A)
- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse
IRHNA57160 - SOA CURVE

![SOA Curve Diagram](image-url)

**Operation Limit**
- Operation in this area is limited by $R_{DS(on)}$.

**Parameters**
- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse
- $V_{DS}, Drain-to-Source Voltage (V)$
- $I_{D}, Drain-to-Source Current (A)$

**Time Constants**
- 100μs
- 1ms
- 10ms
- DC
IRHF57130 - SOA CURVE

**Diagram Description:**

- The graph represents the SOA (Safe Operating Area) curve for IRHF57130.
- **Horizontal Axis (V_DS):** Drain-to-Source Voltage (V).
- **Vertical Axis (I_D):** Drain-to-Source Current (A).
- The curve is limited by the on resistance (R_DS(on)).
- Different time durations (100μs, 1ms, 10ms) are marked on the graph.
- Conditions: 
  - Tc = 25°C
  - TJ = 150°C
  - Single Pulse

**Key Points:**

- Operation in this area is limited by R_DS(on).

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IRHMS597Z60 - SOA CURVE

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

$-I_D$, Drain-to-Source Current (A)

$-V_{DS}$, Drain-to-Source Voltage (V)

$T_c = 25^\circ C$

$T_j = 150^\circ C$

Single Pulse

100μs

1 ms

10 ms

DC
IRHMS57064 - SOA CURVE

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

- $V_{DS}$, Drain-to-Source Voltage (V)
- $I_D$, Drain-to-Source Current (A)

- $T_C = 25^\circ C$
- $T_J = 150^\circ C$
- Single Pulse
- $100\mu s$
- $1\text{ms}$
- $10\text{ms}$
- DC
IRHMS57264SE - SOA CURVE

- Operation in this area limited by $R_{DS(on)}$
- $T_c = 25^\circ C$
- $T_i = 150^\circ C$
- Single Pulse

$I_D$ vs. $V_{DS}$, Drain-to-Source Voltage (V)
IRHMS597064 - SOA CURVE

-\( I_D \), Drain-to-Source Current (A)

-\( V_{DS} \), Drain-to-Source Voltage (V)

Operation in this area limited by \( R_{DS(on)} \)

- \( T_c = 25^\circ C \)
- \( T_j = 150^\circ C \)
- Single Pulse

-100μs
-1ms
-10ms

DC
IRHNA57163SE - SOA CURVE

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

$T_c = 25^\circ C$
$T_j = 150^\circ C$
Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)

$I_D$, Drain-to-Source Current (A)
IRHNA57264SE - SOA CURVE
IRHNJ57133SE - SOA CURVE

Operation in this area limited by $R_{DS(on)}$.

$T_0 = 25^\circ C$
$T_j = 150^\circ C$
Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)

$I_D$, Drain-to-Source Current (A)
IRHNJ57230SE - SOA CURVE

V_DS, Drain-to-Source Voltage (V)

I_D, Drain-to-Source Current (A)

OPERATION IN THIS AREA LIMITED BY \( \frac{I_{DS\text{ (on)}}}{DS} \)

Tc = 25°C
Tj = 150°C
Single Pulse

100μs
1ms
10ms
DC
IRHY57130CM - SOA CURVE

The graph illustrates the SOA curve for IRHY57130CM, showing the relationship between the drain-to-source current ($I_D$) and the drain-to-source voltage ($V_{DS}$) for different pulse durations and temperatures. The operation in the highlighted area is limited by the on-resistance ($R_{DS(on)}$). The graph includes curves for different pulse durations (100μs, 1ms, 10ms) and a single pulse condition. The conditions for the graph are $T_c = 25°C$, $T_j = 150°C$, and a single pulse.
IRHY597230CM - SOA CURVE

Operation in this area limited by \( R_{DS(on)} \).

- \( T_c = 25^\circ C \)
- \( T_i = 150^\circ C \)
- Single Pulse

\( -V_{DS} \), Drain-to-Source Voltage (V) vs. \( -I_{DS} \), Drain-to-Source Current (A)

- 100 \( \mu \)S
- 1 ms
- 10 ms
- DC
IRHYS597034CM - SOA CURVE

OPERATION IN THIS AREA LIMITED BY \( R_{DS(on)} \)

\(-V_{DS}, \text{Drain-to-Source Voltage (V)}\)

\(-I_D, \text{Drain-to-Source Current (A)}\)

\( T_c = 25^\circ C \)

\( T_i = 150^\circ C \)

Single Pulse

100\( \mu \)s

1ms

10ms

DC
IRHY597130CM - SOA CURVE

OPERATION IN THIS AREA LIMITED BY $D_{S(on)}$

$-I_{DS}$, Drain-to-Source Current (A)

$-V_{DS}$, Drain-to-Source Voltage (V)

$T_c = 25^\circ C$

$T_i = 150^\circ C$

Single Pulse

100μs

1ms

10ms

DC
IRHE57234SE - SOA CURVE

- Operation in this area limited by $R_{DS(on)}$.
- $V_{DS}$, Drain-to-Source Voltage (V)
- $I_D$, Drain-to-Source Current (A)
- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse

- Curves for different pulse durations:
  - 100$\mu$s
  - 1ms
  - 10ms
  - DC

- Note: This graph shows the safe operating area for the device under various conditions.
IRHF57Z30 - SOA CURVE

- Operation in this area limited by $D_{S(on)}$
- $V_{DS}$, Drain-to-Source Voltage (V)
- $I_D$, Drain-to-Source Current (A)
- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse

Legend:
- 100μs
- 1ms
- 10ms
- DC
IRHF57034 - SOA CURVE

- Tc = 25°C
- Tj = 150°C
- Single Pulse

Operation in this area limited by $I_{DS(on)}$. 

$V_{DS}$, Drain-to-Source Voltage (V)  

$I_{D}$, Drain-to-Source Current (A)
IRHF57234SE - SOA CURVE

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

$I_D$, Drain-to-Source Current (A)

$V_{DS}$, Drain-to-Source Voltage (V)

$T_c = 25^\circ C$
$T_j = 150^\circ C$
Single Pulse
IRHMS57160 - SOA CURVE

**Graph:**
- **X-axis:** $V_{DS}$ (Drain-to-Source Voltage) (V)
- **Y-axis:** $I_{D}$ (Drain-to-Source Current) (A)
- **Legend:**
  - DC: Constant current source
  - $T_c = 25^\circ C$
  - $T_j = 150^\circ C$
  - Single Pulse

**Important Information:**
- OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$
- Time intervals: 100µs, 1ms, 10ms
IRHNA57Z60 - SOA CURVE

Operation in this area limited by \( R_{DS(on)} \).

- \( T_c = 25^\circ C \)
- \( T_j = 150^\circ C \)
- Single Pulse

\( V_{DS} \), Drain-to-Source Voltage (V)

\( I_D \), Drain-to-Source Current (A)
IRHNA57064 - SOA CURVE

The graph illustrates the safe operating area (SOA) for the IRHNA57064 device. The x-axis represents the drain-to-source voltage ($V_{DS}$) in volts, while the y-axis represents the drain-to-source current ($I_D$) in amperes. The graph shows how the device's safe operating limits are affected by different pulse durations, such as 100μs, 1ms, and 10ms. The operating conditions for the graph are specified as follows:

- $T_c = 25^\circ C$
- $T_i = 150^\circ C$
- Single Pulse

Operation in the shaded area is limited by $R_{DS(on)}$. The graph helps in understanding the device's performance limits under various conditions.
Operation in this area limited by RDS(on)

\[ \text{Operation in this area limited by RDS(on)} \]

- TC = 25°C
- TJ = 150°C
- Single Pulse
- 100µs
- 1ms
- 10ms
- DC

**V_{DS}, Drain-to-Source Voltage (V)**

**I_{D}, Drain Current (A)**
IRHNA597064 - SOA CURVE

OPERATION IN THIS AREA
LIMITED BY $R_{DS(on)}$

$-I_D$, Drain-to-Source Current (A)

$-V_{DS}$, Drain-to-Source Voltage (V)

$T_0 = 25^\circ C$
$T_J = 150^\circ C$
Single Pulse

100, 10, 1, 0.1
IRHNA597260 - SOA CURVE

Operation in this area limited by $R_{DS(on)}$.

- $I_D$, Drain-to-Source Current (A)
- $-V_{DS}$, Drain-to-Source Voltage (V)

$T_c = 25^\circ C$

$T_j = 150^\circ C$

Single Pulse
Operation in this area limited by RDS(on)

- TC = 25°C
- TJ = 150°C
- Single

V_DS, Drain-to-Source Voltage (V)
I_D, Drain Current (A)
IRHY597Z30CM - SOA CURVE

- Drain-to-Source Current (A)

- Drain-to-Source Voltage (V)

Operation in this area limited by $R_{DS(on)}$

$T_c = 25^\circ C$
$T_j = 150^\circ C$
Single Pulse
IRHF9130 - SOA CURVE

Operation in this area limited by \( R_{DS(on)} \).

- \( T_c = 25^\circ C \)
- \( T_j = 150^\circ C \)
- Single Pulse

\( -V_{DS} \), Drain-to-Source Voltage (V)

- \( I_D \), Drain-to-Source Current (A)
IRHM7054 - SOA CURVE

- Operation in this area limited by $R_{DS(on)}$
- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)
IRHNA7260 - SOA CURVE

OPERATION IN THIS AREA LIMITED
BY \( R_{DS(on)} \)

\( V_{DS} \), Drain-to-Source Voltage (V)

\( I_D \), Drain-to-Source Current (A)

\( T_c = 25^\circ C \)
\( T_j = 150^\circ C \)
Single Pulse
DC

100μs
1ms
10ms
IRHF57133SE - SOA CURVE

The graph illustrates the safe operating area (SOA) for the IRHF57133SE device, showing the relationship between drain-to-source current (I_D) and drain-to-source voltage (V_DS). The curves represent different time intervals (100μs, 1ms, 10ms) and temperatures (Tc = 25°C, Tj = 150°C) under single pulse conditions. The region shaded in the graph indicates the operational limits, with the upper boundary marked by the turn-on voltage (V_DS(on)).
IRHF7130 - SOA CURVE

[Graph showing SOA characteristics with various curves and labels for current and voltage.]
IRHF57230SE - SOA CURVE

- OPERATION IN THIS AREA LIMITED
  BY $R_{DS(on)}$

- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse

- $V_{DS}$, Drain-to-Source Voltage (V)
- $I_D$, Drain-to-Source Current (A)
IRHM7150 - SOA CURVE

Graph showing the relationship between Drain-to-Source Voltage ($V_{DS}$) and Drain-to-Source Current ($I_D$). The graph indicates operation limitations at various pulse durations ($100 \mu s$, $1 ms$, $10 ms$) and temperatures ($T_c = 25^\circ C$, $T_j = 150^\circ C$). The area marked as "OPERATION IN THIS AREA LIMITED BY R_{DS(on)}" is highlighted.

Note: The graph represents single pulse operation.
IRHN7250 - SOA CURVE

- Operation in this area limited by \( R_{DS(on)} \).
- \( T_c = 25^\circ C \)
- \( T_j = 150^\circ C \)
- Single Pulse
- DC

Graph shows the relationship between Drain-to-Source Current (\( I_D \)) and Drain-to-Source Voltage (\( V_{DS} \)).
IRHY7230CM - SOA CURVE

- Operation in this area limited by $R_{DS(on)}$
- $V_{DS}$, Drain-to-Source Voltage (V)
- $I_D$, Drain-to-Source Current (A)
- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse
- 100 $\mu$s
- 1 ms
- 10 ms
- DC
IRHNJ67C30 - SOA CURVE

Operation in this area limited by $R_{DS(on)}$. For $T_c = 25^\circ C$, $T_j = 150^\circ C$, single pulse, and $100 \mu s$.

$V_{DS}$, Drain-to-Source Voltage (V)

$I_D$, Drain-to-Source Current (A)
IRHY67C30CM - SOA CURVE

- Operation in this area limited by $R_{DS(on)}$.
- $T_c = 25^\circ C$.
- $T_j = 150^\circ C$.
- Single Pulse.
IRHY57230CMSE - SOA CURVE

**Operational Area:**

- Drain-to-Source Current ($I_D$) vs. Drain-to-Source Voltage ($V_{DS}$)
- Operation in this area limited by $R_{DS(on)}$

**Conditions:**

- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse
- 10ms, 1ms, 100µs
- DC

**Graphical Representation:**

- Axes: $I_D$ (Drain-to-Source Current) and $V_{DS}$ (Drain-to-Source Voltage)
- Grid lines for reference

**Legend:**

- Operating areas marked with time intervals
IRHY67234CM

Operation in this area limited by RDS(on)

T_C = 25°C
T_J = 150°C
Single Pulse

I_D, Drain Current (A)

V_DS, Drain-to-Source Voltage (V)

0.01 0.1 1 10 100 1 10 100 1000

100µs 1ms 10ms DC
Operation in this area limited by RDS(on)

- $V_{DS}$, Drain-to-Source Voltage (V)
- $I_D$, Drain Current (A)

- $T_C = 25^\circ C$
- $T_J = 150^\circ C$
- Single Pulse

- 100µs
- 1ms
- 10ms
- DC
Operation in this area limited by RDS(on)

- VDS, Drain-to-Source Voltage (V)
- ID, Drain Current (A)

TC = 25°C
TJ = 150°C
Single Pulse

100µs
1ms
10ms
DC
IRHY57133CMSE - SOA CURVE

- OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse

$I_D$, Drain-to-Source Current (A)

$V_{DS}$, Drain-to-Source Voltage (V)
IRHLUB7970Z4 / IRHLUBC7970Z4 - SOA CURVE

Operation in this area limited by \( R_{DS(on)} \).

- \( T_c = 25^\circ C \)
- \( T_j = 150^\circ C \)
- Single Pulse

\( I_{D, \max} \), Drain-to-Source Current (A)

\( -V_{DS} \), Drain-to-Source Voltage (V)
IRHM7160 - SOA CURVE

- Operation in this area limited by \( R_{DS(on)} \).
- Parameters: \( Tc = 25^\circ C \), \( Ti = 150^\circ C \), single pulse.
- Axes: \( I_D \), Drain-to-Source Current (A); \( V_{DS} \), Drain-to-Source Voltage (V).
IRHM9250 - SOA CURVE

Operational in this area limited by $R_{DS(on)}$.

$T_c = 25^\circ C$,
$T_j = 150^\circ C$,
Single Pulse.
Operation in this area limited by RDS(on)

\[ I_D, \text{Drain Current (A)} \]

\[ V_{DS}, \text{Drain-to-Source Voltage (V)} \]

- \( T_C = 25^\circ C \)
- \( T_J = 150^\circ C \)
- Single Pulse

1 10 100 1000

0.1 1 10 100 1000

100\mu s 1 ms 10 ms DC
Operation in this area limited by RDS(on)

IRHNA67260

- VDS, Drain-to-Source Voltage (V)
- ID, Drain Current (A)

TC = 25°C
TJ = 150°C
Single Pulse

100µs
1ms
10ms
DC
IRHYS67134CM

**Operation in this area limited by RDS(on)**

- **VDS, Drain-to-Source Voltage (V)**
- **ID, Drain Current (A)**
- **TC = 25°C**
- **TJ = 150°C**
- **Single Pulse**

- 100 µs
- 1 ms
- 10 ms
- DC

- **T_C = 25°C**
- **T_J = 150°C**

- **Single Pulse**
IRHLUB770Z4 / IRHLUBC770Z4 - SOACURVE

[Diagram showing SOA curve with labels and curves for DC, single pulse, and limits based on Tc and Ti conditions.]
IRHM7064 - SOA CURVE

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

$V_{DS}$, Drain-to-Source Voltage (V)

$I_D$, Drain-to-Source Current (A)

$T_c = 25^\circ C$
$T_j = 150^\circ C$
Single Pulse

DC
IRHM7260 - SOA CURVE

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

$T_c = 25^\circ C$
$T_i = 150^\circ C$
Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)

$Id$, Drain-to-Source Current (A)
Operation in this area limited by $R_{DS(on)}$.

- $T_C = 25^\circ C$
- $T_J = 150^\circ C$
- Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)

$I_D$, Drain Current (A)
Operation in this area limited by RDS(on)
IRHN7150 - SOA CURVE

Operation in this area limited by \( R_{DS(on)} \).

\[ \text{Tc} = 25^\circ C, \quad T_j = 150^\circ C \]

Single Pulse

\[ V_{DS}, \text{Drain-to-Source Voltage (V)} \]

\[ I_D, \text{Drain-to-Source Current (A)} \]
IRHNA7160 - SOA CURVE

Drain-to-Source Voltage (V) vs. Drain-to-Source Current (A) curve for different pulse durations:
- 100 μs
- 1 ms
- 10 ms

Temperature conditions:
- TC = 25°C
- TJ = 150°C

Operation in this area limited by R_DS(on).
Operation in this area limited by RDS(on)
IRHY7130CM - SOA CURVE

- Drain-to-Source Current (A) vs. Drain-to-Source Voltage (V)
- Operation in this area limited by $R_{DS(on)}$
- Parameters: $T_c = 25^\circ C$, $T_j = 150^\circ C$, Single Pulse
IRHYS67130CM

Operation in this area limited by RDS(on)

- $T_C = 25^\circ C$
- $T_J = 150^\circ C$
- Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)

$I_D$, Drain Current (A)

- 100µs
- 1ms
- 10ms
- DC
Operation in this area limited by RDS(on)

IRHY67230CM

\[ V_{DS}, \text{Drain-to-Source Voltage (V)} \]

\[ I_D, \text{Drain Current (A)} \]

- \( T_C = 25^\circ C \)
- \( T_J = 150^\circ C \)
- Single Pulse

Timing:
- \( 100 \mu s \)
- \( 1 \text{ms} \)
- \( 10 \text{ms} \)
- DC
IRHF9230 - SOA CURVE

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$.

$T_c = 25\, ^\circ\text{C}$
$T_j = 150\, ^\circ\text{C}$
'Single Pulse'

$-D$, Drain-to-Source Current (A)

$-V_{DS}$, Drain-to-Source Voltage (V)
IRHM9160 - SOA CURVE

- $I_D$, Drain-to-Source Current (A)

- $V_{DS}$, Drain-to-Source Voltage (V)

- Operation in this area limited by $F_{DS(on)}$

- $T_c = 25°C$
- $T_j = 150°C$
- Single Pulse

- 100μs
- 1ms
- 10ms

DC
IRHNJ7130 - SOA CURVE

V_{DS}, Drain-to-Source Voltage (V)

I_D, Drain-to-Source Current (A)

OPERATION IN THIS AREA LIMITED BY R_{DS(on)}

T_c = 25°C
T_j = 150°C
Single Pulse

100μs
1ms
10ms
DC
IRHNJ7330SE - SOA CURVE
IRHE9230 - SOA CURVE

![SOA Curve Diagram]

- Drain-to-Source Current (A)
- Drain-to-Source Voltage (V)

- Operation in this area limited by $R_{DS(on)}$
- $Tc = 25^\circ C$
- $Tj = 150^\circ C$
- Single Pulse
- 100μs, 1ms, 10ms
IRHM7360SE - SOA CURVE

- OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$
- $I_D$, Drain-to-Source Current (A)
- $V_{DS}$, Drain-to-Source Voltage (V)
- $T_c = 25°C$
- $T_J = 150°C$
- Single Pulse

- Operational limits and conditions for the IRHM7360SE SOA curve, showing the relationship between drain-to-source current and voltage at different pulse durations.
IRHNA9064 - SOA CURVE

- Operation in this area limited by \( R_{DS(on)} \)
- \( T_c = 25^\circ C \)
- \( T_j = 150^\circ C \)
- Single Pulse

- \( I_{D} \), Drain-to-Source Current (A)
- \( V_{DS} \), Drain-to-Source Voltage (V)
IRHNJ7430SE - SOA CURVE

Operation in this area limited by $R_{DS(on)}$.

$T_c = 25^\circ C$
$T_j = 150^\circ C$

Single Pulse
IRHNJ7230 - SOA CURVE

- Operation in this area limited by $R_{DS(ON)}$.

- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse

- $V_{DS}$, Drain-to-Source Voltage (V)
- $I_D$, Drain-to-Source Current (A)
IRHNJ9130 - SOA CURVE

OERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

- $T_c = 25^\circ C$
- $T_i = 150^\circ C$
- Single Pulse

$-V_{DS}$, Drain-to-Source Voltage (V)

$-D_s$, Drain-to-Source Current (A)
IRF430 - SOA CURVE

- Operation in this area limited by \( R_{DS(on)} \)

Parameters:
- \( T_c = 25^\circ C \)
- \( T_j = 150^\circ C \)
- Single Pulse

- DC

- \( V_{DS} \), Drain-to-Source Voltage (V)
- \( I_{D} \), Drain-to-Source Current (A)
IRFE310 - SOA CURVE

![SOA Curve Diagram](image-url)
IRFE430 - SOA CURVE
IRFF420 - SOA CURVE

![SOA Curve Diagram](image)

- **Operation in this area limited by** $R_{DS(on)}$
- Conditions:
  - $T_c = 25^\circ C$
  - $T_j = 150^\circ C$
- Single Pulse
- DC

- **$I_D$ vs. $V_{DS}$**: Drain-to-Source Current vs. Drain-to-Source Voltage

- **Time Duration**:
  - 10$\mu$s
  - 1ms
  - 10ms
IRFM440 - SOA CURVE
IRFN440 - SOA CURVE
IRHF7330SE - SOA CURVE
IRHM7264SE - SOA CURVE

![Graph showing SOA curve for IRHM7264SE with labels: Drain-to-Source Current (A) on the y-axis, Drain-to-Source Voltage (V) on the x-axis, with various curves for different time durations and temperature conditions.]
IRHN7450 - SOA CURVE

\( V_{DS} \), Drain-to-Source Voltage (V)

\( I_D \), Drain-to-Source Current (A)

Operation in this area limited by \( R_{DS(on)} \).

- \( T_c = 25^\circ C \)
- \( T_j = 150^\circ C \)
- Single Pulse

10\( \mu \)s

10ms

1ms
IRF450 - SOA CURVE

[Graph showing SOA curve with specifications and operating conditions]

- Operation in this area limited by $V_{DS(on)}$
- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse
IRFF310 - SOA CURVE

![SOA Curve Graph]

- Operation in this area limited by $R_{DS(on)}$
- $T_c = 25^\circ C$
- $T_i = 150^\circ C$
- Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)

$I_D$, Drain-to-Source Current (A)
IRFF430 - SOA CURVE

![SOA Curve Diagram](image)

- Operation in this area limited by $R_{DS(on)}$
- $T_C = 25^\circ C$
- $T_J = 150^\circ C$
- Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)

$I_D$, Drain-to-Source Current (A)
IRFM450 - SOA CURVE

![SOA Curve Diagram]

**Key Points:**
- **$T_0 = 25^\circ C$**
- **$T_j = 150^\circ C$**
- Single Pulse

**Axes:**
- $V_{DS}$, Drain-to-Source Voltage (V)
- $I_D$, Drain-to-Source Current (A)

**Note:** Operation in this area limited by $R_{DS(on)}$. 

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125
IRFN450 – SOA CURVE

- Operation in this area limited by \( D_S(\text{on}) \)

- \( I_D \), Drain-to-Source Current (A)
- \( V_{DS} \), Drain-to-Source Voltage (V)

- \( T_c = 25^\circ\text{C} \)
- \( T_I = 150^\circ\text{C} \)
- Single Pulse

- Lines for different time periods: 10μs, 1ms, 10ms, DC
IRHF7430SE - SOA CURVE

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

$T_c = 25^\circ C$

$T_j = 150^\circ C$

Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)

$I_D$, Drain-to-Source Current (A)
IRHM7450 - SOA CURVE

[Graph showing the SOA curve for IRHM7450 with axes labeled as: Drain-to-Source Current (A) on the y-axis and Drain-to-Source Voltage (V) on the x-axis. The graph includes lines for different pulse durations and temperature conditions.]
IRF230 - SOA CURVE

[Graph showing the Safe Operating Area (SOA) curve for IRF230, with axes for Drain-to-Source Current (ID) and Drain-to-Source Voltage (V_DS).]

- Operation in this area limited by R_DS(on).
- TC = 25°C
- TJ = 150°C
- Single Pulse
IRFE210 - SOA CURVE

Drain-to-Source Current (A) vs. Drain-to-Source Voltage (V)

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

$V_{DS}$ = Drain-to-Source Voltage (V)

$T_c = 25^\circ$C, $T_I = 150^\circ$C, Single Pulse

100μs, 1ms, 10ms

DC
IRFF210 - SOA CURVE

[Diagram showing the SOA curve with labels for different time durations and temperatures.]

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$
IRFF220 - SOA CURVE

![SOA Curve Diagram](image)

- **Tc = 25°C**
- **TI = 150°C**
- **Single Pulse**
- **Operation in this area limited by RDS(on)**

**V_DS , Drain-to-Source Voltage (V)**

**I_D , Drain-to-Source Current (A)**

- **100 μs**
- **1 ms**
- **10 ms**

**DC**
IRFF230 - SOA CURVE

_OPERATION IN THIS AREA LIMITED BY R_{DS(on)}_

\[ I_D \] vs. \[ V_{DS} \] (Drain-to-Source Voltage) - Drain-to-Source Current (A) vs. Drain-to-Source Voltage (V)

- \( T_c = 25^\circ C \)
- \( T_j = 150^\circ C \)
- Single Pulse

- \( 100\mu s \)
- \( 1\ms \)
- \( 10\ms \)
IRFM250 - SOA CURVE

- Operation in this area limited by $R_{DS(on)}$
- $T_c = 25^\circ$C
- $T_J = 150^\circ$C
- Single Pulse
IRFN240 - SOA CURVE
IRFN250 - SOA CURVE

- Operation in this area limited by $R_{DS(on)}$
- TC = 25°C
- TJ = 150°C
- Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)

$\log_{10}(I_D)$, Drain-to-Source Current (A)
IRHG57110 (4N) - SOA CURVE

 OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$.

 $V_{DS}$, Drain-to-Source Voltage (V)

 $I_D$, Drain-to-Source Current (A)

 $T_c = 25^\circ C$

 $T_j = 150^\circ C$

 Single Pulse

 DC

 100μs

 1ms

 10ms
IRHG567110 (2N) - SOA CURVE

- Operation in this area limited by $R_{DS(on)}$
- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)

$|I_D|$, Drain-to-Source Current (A)
IRHG597110 (4P) - SOA CURVE
IRHQ57110 (4N) - SOA CURVE

- OPERATION IN THIS AREA LIMITED BY $R^{on}_{DS}$
- $V_{DS}$, Drain-to-Source Voltage (V)
- $I_D$, Drain-to-Source Current (A)

- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse

- $100 \mu s$
- $1 ms$
- $10 ms$
IRHQ567110 (2N) - SOA CURVE

OPERATION IN THIS AREA LIMITED BY R_DS(on)

V_DS, Drain-to-Source Voltage (V)

I_D, Drain-to-Source Current (A)

Tc = 25°C
Tj = 150°C
Single Pulse

100μs
1ms
10ms
DC
IRHQ597110 (4P) - SOA CURVE

- I_D, Drain-to-Source Current (A)
- V_DS, Drain-to-Source Voltage (V)
- Operation in this area limited by R_DS(on)
- Tc = 25°C
- Tj = 150°C
- Single Pulse

100μs
1ms
10ms
DC
IRHY57234CMSE - SOA CURVE

- Drain-to-Source Current (A)
- Drain-to-Source Voltage (V)

- Operation in this area limited by $DS_{(on)}$
- $Tc = 25^\circ C$
- $Tj = 150^\circ C$
- Single Pulse

- Time durations: 10ms, 1ms, 100µs, DC
IRHNJ67230 - SOA CURVE

Operation in this area limited by $R_{DS(on)}$. The graph shows the drain-to-source current ($I_D$) as a function of the drain-to-source voltage ($V_{DS}$) for different pulse durations at $T_c = 25^\circ\text{C}$, $T_i = 150^\circ\text{C}$, and a single pulse.
IRHNJ57234SE - SOA CURVE

OPERATION IN THIS AREA LIMITED BY $P_{DS(on)}$

$V_{DS}$, Drain-to-Source Voltage (V)

$ID$, Drain-to-Source Current (A)

$T_c = 25^\circ C$

$T_j = 150^\circ C$

Single Pulse

0.01  1  10  100  1000

10  1  0.1  0.1

100μs  1ms  10ms  DC
IRFM9240 - SOA CURVE

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

- $V_{DS}$, Drain-to-Source Voltage (V)
- $I_D$, Drain-to-Source Current (A)

$T_c = 25^\circ C$
$T_j = 150^\circ C$
Single Pulse

- 100μs
- 1 ms
- 10 ms
- DC
IRFM350 - SOA CURVE

utation in THIS AREA LIMITED BY $I_{DS(on)}$

$T_c = 25^\circ C$

$T_j = 150^\circ C$

Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)

$I_D$, Drain-to-Source Current (A)
IRFG9110 (4P) - SOA CURVE

![SOA Curve Diagram]

- $V_{DS}$, Drain-to-Source Voltage (V)
- $I_D$, Drain-to-Source Current (A)

- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$
IRFG6110 (2N-2P) - SOA CURVE
THIS IS FOR 2P

OPERATION IN THIS AREA LIMITED
BY $R_{DS(on)}$

$T_c = 25^\circ C$
$T_j = 150^\circ C$
Single Pulse

$-V_{DS}$, Drain-to-Source Voltage (V)
IRFG6110 (2N-2P) - SOA CURVE
THIS IS FOR 2N
IRFG5110 (2N-2P) - SOA CURVE
THIS IS FOR 2P

-\( I_D \), Drain-to-Source Current (A)

-\( V_{DS} \), Drain-to-Source Voltage (V)

\( Tc = 25^\circ C \)
\( Tj = 150^\circ C \)

Single Pulse

1ms
10ms
DC

OPERATION IN THIS AREA LIMITED BY \( R_{DS(on)} \)
IRFG5110 (2N-2P) - SOA CURVE

THIS IS FOR 2N
IRFF9230 - SOA CURVE

- $I_D$, Drain-to-Source Current (A)
- $V_{DS}$, Drain-to-Source Voltage (V)

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse

$100 \mu s$, $1 ms$, $10 ms$, $DC$
IRFE9230 - SOA CURVE

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

$T_c = 25^\circ C$
$T_j = 150^\circ C$
Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)
IRFE9220 - SOA CURVE

-\text{\textbf{V}}_{DS}, \text{Drain-to-Source Voltage (V)}

-\text{\textbf{I}}_{D}, \text{Drain-to-Source Current (A)}

\text{OPERATION IN THIS AREA LIMITED BY } R_{DS(on)}$

T_c = 25^\circ\text{C}, \quad T_j = 150^\circ\text{C}
\text{Single Pulse}

100\mu\text{s}, \quad 1\text{ms}, \quad 10\text{ms}
IRF9230 - SOA CURVE

\[ \text{Operation in this area limited by } R_{DS(on)} \]

\[ T_c = 25^\circ C, \quad T_j = 150^\circ C \]

Single Pulse

\[ -V_{DS}, \text{ Drain-to-Source Voltage (V)} \]

\[ -I_D, \text{ Drain-to-Source Current (A)} \]

\[ 100, 10, 1, 0.1 \]

\[ 100\mu s, 1\text{ms}, 10\text{ms}, \text{DC} \]
IRFG110 (4N) - SOA CURVE
IRHF597230 - SOA CURVE
IRHLNM77110 - SOA CURVE

- Operation in this area limited by RDS(on).
- TC = 25°C
- TJ = 150°C
- Single Pulse

DC
100μs
10ms
1ms

V_DS, Drain-to-Source Voltage (V)
IRHN597110 - SOA CURVE

- \( V_{DS} \), Drain-to-Source Voltage (V)
- \( I_D \), Drain-to-Source Current (A)

Operation in this area limited by \( R_{DS(on)} \)

\( T_c = 25^\circ C \)
\( T_j = 150^\circ C \)
Single Pulse
100\( \mu s \)
1ms
10ms
DC
IRF330 - SOA CURVE
IRFF330 - SOA CURVE
IRHF7110 - SOA CURVE

![SOA Curve Diagram]

- Operation in this area limited by $R_{DS(on)}$
- $T_c = 25^\circ C$
- $T_J = 150^\circ C$
- Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)

$ID$, Drain-to-Source Current (A)
IRHLF77214 - SOA CURVE
IRHLQ77214 - SOA CURVE
IRFF320 - SOA CURVE

\[ V_{DS}, \text{Drain-to-Source Voltage (V)} \]

\[ I_D, \text{Drain-to-Source Current (A)} \]

- OPERATION IN THIS AREA LIMITED BY \( R_{DS(on)} \)
- \( T_c = 25^\circ\text{C} \)
- \( T_j = 150^\circ\text{C} \)
- Single Pulse
- DC

Timesteps: 10\(\mu\text{s} \), 1\(\text{ms} \), 10\(\text{ms} \)
IRFE320 - SOA CURVE

[Graph showing the SOA curve with Operation limited by R_{DS(on)} and curves for different times and conditions.]

V_{DS}, Drain-to-Source Voltage (V)

I_{D}, Drain-to-Source Current (A)

TC = 25°C
TI = 150°C
Single Pulse

DC
IRFE330 - SOA CURVE

Temperature:
- $T_c = 25^\circ C$
- $T_j = 150^\circ C$

Operation in this area limited by $R_{DS(on)}$.

Time durations:
- 100µs
- 1ms
- 10ms

Currents and voltages are in DC andSingle Pulse modes.

$V_{DS}$, Drain-to-Source Voltage (V)

$V_{DS}$, Drain-to-Source Voltage (V)

$V_{DS}$, Drain-to-Source Voltage (V)
IRF130 - SOA CURVE

![IRF130 SOA Curve Diagram](image)

- OPERATION IN THIS AREA LIMITED BY $P_{DS(on)}$
- $V_{DS}$, Drain-to-Source Voltage (V)
- $I_D$, Drain-to-Source Current (A)
- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse
IRFM9140 - SOA CURVE

-\( V_{DS} \), Drain-to-Source Voltage (V)

-\( I_{DS} \), Drain-to-Source Current (A)

- Operation in this area limited by \( R_{DS(on)} \)

- \( T_{C} = 25^\circ C \)
- \( T_{J} = 150^\circ C \)
- Single Pulse

- 100\( \mu s \)
- 1\( ms \)
- 10\( ms \)
- DC
IRFN350 - SOA CURVE

Operation in this area limited by $\frac{I_{D}}{I_{DS(on)}}$.

- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse

$V_{DS}$, Drain-to-Source Voltage (V)

$I_{D}$, Drain-to-Source Current (A)
IRHLF7970Z4 - SOA CURVE

OPERATION IN THIS AREA LIMITED BY $R_{DS(on)}$

$T_c = 25^\circ C$
$T_j = 150^\circ C$
Single Pulse

$-D_{DS}$, Drain-to-Source Current (A)

$-V_{DS}$, Drain-to-Source Voltage (V)
IRHLNJ797034 - SOA CURVE

Operation in this area limited by $R_{DS(on)}$.

$T_c = 25^\circ C$
$T_j = 150^\circ C$

Single Pulse

$-V_{DS}$, Drain-to-Source Voltage (V)
IRHN57250SE - SOA CURVE
IRF350 - SOA CURVE

[Graph showing the relationship between drain-to-source current (I_D) and drain-to-source voltage (V_DS) with T_C = 25°C, T_J = 150°C, and single pulse operation.]
IRFN340 - SOA CURVE
IRFN9140 - SOA CURVE
IRHLF77110 - SOA CURVE

Operation in this area limited by $R_{DS(on)}$.

- $V_{DS}$, Drain-to-Source Voltage (V)
- $I_D$, Drain-to-Source Current (A)

- $T_c = 25^\circ C$
- $T_j = 150^\circ C$
- Single Pulse

- 100μs
- 1ms
- 10ms
- DC
IRHLYS797034CM - SOA CURVE

-\text{V}_{DS}, \text{Drain-to-Source Voltage (V)}

-\text{I}_{DS}, \text{Drain-to-Source Current (A)}

\text{OPERATION IN THIS AREA LIMITED BY } R_{DS}^{(on)}

\begin{align*}
\text{T}_c &= 25^\circ\text{C} \\
\text{T}_j &= 150^\circ\text{C} \\
\text{Single Pulse}
\end{align*}

\begin{align*}
\text{DC} \\
10\text{ms} \\
1\text{ms} \\
100\mu\text{s}
\end{align*}