High Voltage  
**XPT™ IGBT**  

**(Electrically Isolated Tab)**

**Symbol** | **Test Conditions** | **Maximum Ratings** |
---|---|---|
$V_{CES}$ | $T_J = 25°C$ to $150°C$ | $4500 V$ |
$V_{CGR}$ | $T_J = 25°C$ to $150°C$, $R_{GE} = 1M\Omega$ | $4500 V$ |
$V_{GES}$ | Continuous | $\pm 20 V$ |
$V_{GEM}$ | Transient | $\pm 30 V$ |
$I_{C5}$ | $T_C = 25°C$ | $90 A$ |
$I_{C110}$ | $T_C = 110°C$ | $38 A$ |
$I_{CM}$ | $T_C = 25°C$, $1ms$ | $680 A$ |
$SSOA$ | $V_{GE} = 15V$, $T_{VJ} = 125°C$, $R_g = 4.7\Omega$ | $I_{CM} = 120 A$ |
(RBSOA) | Clamped Inductive Load | $1500 V$ |
$P_e$ | $T_C = 25°C$ | $417 W$ |
$T_J$ | $-55 ... +150 °C$ | |
$T_{Jm}$ | $150 °C$ | |
$T_{Sig}$ | $-55 ... +150 °C$ | |
$T_i$ | Maximum Lead Temperature for Soldering | $300 °C$ |
$T_{SOLD}$ | Plastic Body for 10s | $260 °C$ |
$F_C$ | Mounting Force | $40...120 / 9...27 N/lb$ |
$V_{ISOL}$ | $50/60 Hz$, $RM$, $t = 1min$ | $4000 V$ |
**Weight** | | $8 g$ |

**特点**
- 硅芯片直接铜基板
- 隔离安装表面
- 4000V~ 电气隔离
- 高阻断电压
- 高峰值电流能力
- 低饱和电压

**优点**
- 低栅驱动要求
- 高功率密度

**应用**
- 开关模式和共振模式电源
- 不间断电源 (UPS)
- 激光发生器
- 电容放电电路
- 交流开关
Symbol  Test Conditions  Characteristic Values
\( I_C = 60A, V_{CE} = 10V, \text{ Note 1} \)
\( I_C = 60A, V_{CE} = 15V, V_{GE} = 1000V \)
\( I_C = 60A, V_{GE} = 15V \)
\( V_{CE} = 25V, V_{GE} = 0V, f = 1MHz \)
\( V_{CE} = 960V, R_G = 4.7\, \Omega \)
\( V_{CE} = 960V, R_G = 4.7\, \Omega \)

<table>
<thead>
<tr>
<th>Symbol</th>
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<th>Characteristic Values</th>
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</table>
| \( g_{ns} \) | \( I_C = 60A, V_{CE} = 10V, \text{ Note 1} \) | Min. 32  
Typ. 54  
Max. S |
| \( C_{res} \) | \( V_{CE} = 25V, V_{GE} = 0V, f = 1MHz \) | Min. 270  
Typ. pF  
Max. 7530 |
| \( R_{GI} \) | Integrated Gate Input Resistance | Min. 115  
Typ. pF  
Max. 270 |

Notes:
1. Pulse test, \( t < 300\, \mu s \), duty cycle, \( d < 2\% \).
2. Device must be heatsunk for high-temperature leakage current measurements to avoid thermal runaway.

Preliminary Technical Information

The product presented herein is under development. The Technical Specifications offered are derived from a subjective evaluation of the design, based upon prior knowledge and experience, and constitute a "considered reflection" of the anticipated result. IXYS reserves the right to change limits, test conditions, and dimensions without notice.
**Fig. 1. Output Characteristics @ T_J = 25°C**

![Graph showing output characteristics at 25°C.](image1)

- V_CE = 25V, 19V, 15V, 13V, 11V, 9V, 7V, 5V
- I_C = 0 to 120A

**Fig. 2. Extended Output Characteristics @ T_J = 25°C**

![Graph showing extended output characteristics at 25°C.](image2)

- V_CE = 25V, 19V, 15V, 13V, 11V
- I_C = 0 to 250A

**Fig. 3. Output Characteristics @ T_J = 125°C**

![Graph showing output characteristics at 125°C.](image3)

- V_CE = 25V, 19V, 15V, 13V, 11V, 9V, 7V, 5V
- I_C = 0 to 60A

**Fig. 4. Dependence of V_CE(sat) on Junction Temperature**

![Graph showing dependence of V_CE(sat) on temperature.](image4)

- V_CE = 15V
- I_C = 120A, 60A, 30A
- T_J = -50 to 150°C

**Fig. 5. Collector-to-Emitter Voltage vs. Gate-to-Emitter Voltage**

![Graph showing collector-to-emitter voltage vs. gate-to-emitter voltage.](image5)

- V_CE = 0 to 7 V
- V_GE = 5V, 7V, 9V
- I_C = 120A, 60A, 30A
- T_J = 25°C

**Fig. 6. Input Admittance**

![Graph showing input admittance.](image6)

- V_CE = 0 to 200
- I_C = 0 to 120A
- T_J = 125°C, 25°C, 40°C