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## QQQX2.E72873

### Electrically Isolated Semiconductor Devices - Component

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### Electrically Isolated Semiconductor Devices - Component

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#### IXYS SEMICONDUCTOR GMBH

E72873

Edisonstrasse 15  
68623 Lampertheim, GERMANY

**Electrically Isolated Semiconductor Device**, Model(s) GBO25-12NO1, GBO25-16NO1

**Power Switching Semi-Conductors, "ISOPLUS-247 package"**, Model(s) C, D, I or M followed by additional numbers and letters, followed by HI, HJ, HQ or HR.

**Power Switching Semi-Conductors, "ISOPLUS-247 package"**, Model(s) CS or DS followed by up to 10 numbers and letters, followed by R.

**Power Switching Semi-Conductors, "ISOPLUS-i4"**, Model(s) C, D, I or M followed by two letters, followed by additional numbers and letters, followed by FB, FC, FD or FE.

**Power switching semi-conductors, "ISOPLUS-i4"**, Model(s) CS#

**Power Switching Semi-Conductors, "ISOPLUS-i4"**, Model(s) CS, DH, DS followed by up to 15 numbers and letters, followed by F or F1.

**Power switching semi-conductors, "ISOPLUS-i4"**, Model(s) DS#, DSE#, FBE#, FBO#, FBS#, FCC#, FCD#, FDC#, FDD#, FDI#, FDM#, FEE#, FID#, FII#, FIO#, FMD#, FMK#, FMM#, FRR#, FSS#, FUE#, FUO#, FUS#, IXBF#, IXDF#, IXEF#, IXFF#, IXGF#, IXKF#, IXL#, IXSF#, IXUF#

**Power Switching Semi-Conductors, "ISOPLUS220 package"**, Model(s) C, D, I or M followed by additional numbers and letters, followed by PI or PJ.

**Power Switching Semi-Conductors, "ISOPLUS220 package"**, Model(s) CS, DS or DG followed by numbers and letters, followed by C.

**Power switching semi-conductors**, Model(s) 40370-32\*

**Power Switching Semi-Conductors**, Model(s) C, D, I or M followed by two letters, followed by additional numbers and letters, followed by NA.

**Power Switching Semi-Conductors**, Model(s) C, D, I, and M followed by numbers and/or letters, followed by GU, GV, GW, GX, GY or GZ.

**Power Switching Semi-Conductors**, Model(s) C, D, I, and M followed by numbers and/or letters, followed by LA, LB, LC, or LD.

**Power Switching Semi-Conductors**, Model(s) CS followed by additional letters and/or numbers, followed by M.

**Power Switching Semi-Conductors**, Model(s) D followed by additional letters and/or numbers, followed by M.

**Power Switching Semi-Conductors**, Model(s) D, C, M or I followed by additional letters and/or numbers, followed by PN or PM.

**Power Switching Semi-Conductors**, Model(s) DS followed by additional letters and/or numbers, followed by M.

**Power switching semi-conductors**, Model(s) DSEI....P, DSEK....P

**Power Switching Semi-Conductors**, Model(s) GUO followed by numbers, followed by "-", followed by numbers, followed by NO1.

**Power Switching Semi-Conductors**, Model(s) ISOPLUS-264 Models C, D, I or M, followed by two letters, followed by additional numbers and letters, followed by KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV. Models IXBL, IXFL, IXTL or LKK, followed by additional numbers and letters

**Power Switching Semi-Conductors**, Model(s) IX (single phase) followed by two numbers, followed by MB, followed by three numbers.

**Power Switching Semi-Conductors**, Model(s) IX (three phase) followed by two numbers, followed by MT, followed by three numbers.

**Power Switching Semi-Conductors**, Model(s) IX followed by additional letters and/or numbers, followed by M.

**Power Switching Semi-Conductors**, Model(s) M followed by two letters, followed by additional numbers and letters, followed by JA, JB, JC, JD or JE.

**Power Switching Semi-Conductors**, Model(s) MC and M followed by two letters, followed by additional numbers or letters, followed by VB or VC.

**Power Switching Semi-Conductors**, Model(s) MC, MD, MI or MM followed by two letters, followed by additional numbers and letters, followed by ED, EH, SF, or SH.

**Power Switching Semi-Conductors**, Model(s) MC, MD, MI or MM followed by two letters, followed by additional numbers and letters, followed by ML or MH.

**Power Switching Semi-Conductors**, Model(s) MC, MD, MI or MM followed by two letters, followed by additional numbers and letters, followed by TA, TB, TC, TD, TE, TF, or TG.

**Power Switching Semi-Conductors**, Model(s) MC, MD, MI or MM followed by two letters, followed by additional numbers and letters, followed by VA.

**Power Switching Semi-Conductors**, Model(s) MC, MD, MI or MM followed by two letters, followed by additional numbers and letters, followed by YA, YB, YC, YD, YE,YF, YI, YJ, YK or YL.

**Power Switching Semi-Conductors**, Model(s) MC, MD, MI, and MM followed by 8 to 10 alphanumeric characters, followed by MI.

**Power Switching Semi-Conductors**, Model(s) MC, MD, MI, and MM followed by 8 to 10 alphanumeric characters, followed by SA.

**Power Switching Semi-Conductors**, Model(s) MC, MD, MI, and MM followed by 8 to 11 alphanumeric characters, followed by CA, CB, CC, CD, CE, CF, CG, CH.

**Power Switching Semi-Conductors**, Model(s) MC, MD, MI, or MM followed by two letters, followed by additional numbers and letters, followed by KA, KB, KC, KD or KE.

**Power Switching Semi-Conductors**, Model(s) MC, MD, MI, or MM followed by two letters, followed by additional numbers or letters, ending with VH.

**Power Switching Semi-Conductors**, Model(s) MCC, MCD, MCK, MDC, or MDD followed by 120 through 200.\*

**Power Switching Semi-Conductors**, Model(s) MCC, MCD, MDA, MDC, or MDD followed by numbers between 19 and 100.\*

**Power Switching Semi-Conductors**, Model(s) MCC, MCD, MDC, or MDD followed by 170 through 350.\*

**Power switching semi-conductors**, Model(s) MCC165\*, MCC220\*, MCC250\*, MCC310\*, MCD165\*, MCD220\*, MCD250\*, MCD310\*

**Power switching semi-conductors**, Model(s) MCO or MDO, followed by 400 through 650.\*

**Power switching semi-conductors**, Model(s) MDC165\*, MDC220\*, MDC250\*, MDC310\*, MDD165\*, MDD220\*, MDD250\*, MDD310\*

**Power Switching Semi-Conductors**, Model(s) MDI followed by 90 through 1550\*

**Power switching semi-conductors**, Model(s) MDI, MID or MII, followed by 20 through 150.\*

**Power Switching Semi-Conductors**, Model(s) MEA, MEE, MEK, MPK or MEO followed by numbers between 50 and 240.\*

**Power Switching Semi-Conductors**, Model(s) MEA, MEE, MEK, or MEO followed by 150 through 600.\*

**Power Switching Semi-Conductors**, Model(s) MID followed by 90 through 1550\*

**Power Switching Semi-Conductors**, Model(s) MIE followed by 90 through 1550\*

**Power Switching Semi-Conductors**, Model(s) MII followed by 90 through 1550\*

**Power Switching Semi-Conductors**, Model(s) MIO followed by 90 through 1550\*

**Power switching semi-conductors**, Model(s) MIO, VIO or VMO, followed by 200 through 1200.\*

**Power switching semi-conductors**, Model(s) MLO 100\*, MLO 36\*, MLO 50\*, MLO 75\*, MLO....7, MMO 36\*, MMO 50\*, MMO 75\*

**Power Switching Semi-Conductors**, Model(s) MMO, MCO, MCD followed by additional numbers, followed by io1 or io6.

**Power switching semi-conductors**, Model(s) MMO....7

**Power Switching Semi-Conductors**, Model(s) MUBW, MWI or MKI followed by additional numbers and/or letters, followed by 7or 8, may be followed by T.

**Power Switching Semi-Conductors**, Model(s) MUBW, MWI, or MKI followed by additional numbers and /or letters, followed by 6K.

**Power Switching Semi-Conductors**, Model(s) MWI followed by additional numbers and/or letters, followed by 9.

**Power Switching Semi-Conductors**, Model(s) MWI followed by additional numbers and/or letters, followed by A5, DL1, io1, io2, ioX, NO1, NO2, or NOX, may be followed by T

**Power Switching Semi-Conductors**, Model(s) VBBW followed by additional numbers and/or letters, followed by A5, DL1, io1, io2, ioX, NO1, NO2, or NOX, may be followed by T

**Power switching semi-conductors**, Model(s) VBE\*, VBE.. .NO7

**Power Switching Semi-Conductors**, Model(s) VBEF followed by additional numbers and/or letters, followed by A5, DL1, io1, io2, ioX, NO1, NO2, or NOX, may be followed by T

**Power Switching Semi-Conductors**, Model(s) VBH followed by additional numbers and/or letters, followed by A5, DL1, io1, io2, ioX, NO1, NO2, or NOX, may be followed by T

**Power switching semi-conductors**, Model(s) VBO or VUO, followed by 10 through 125.\*

**Power switching semi-conductors**, Model(s) VBO or VUO, followed by 50 through 100.\*

**Power switching semi-conductors**, Model(s) VBO...7, VBO...NO7, VBO13\*, VBO14\*, VBO15\*, VBO16\*, VBO17\*, VBO18\*, VBO19\*, VBO20\*, VBO21\*, VBO22\*, VBO23\*, VBO24\*, VBO25\*, VBO26\*, VBO27\*, VBO28\*, VBO29\*, VBO30\*, VBO31\*, VBO32\*, VBO33\*, VBO34\*, VBO35\*, VBO36\*, VCA....7, VCC....7, VCD....7, VCK....7, VCO....7

**Power Switching Semi-Conductors**, Model(s) VDD may be followed by 15, 24, 25, 33, or 36, followed by 05, 12, 14, 16, 500, 1200, 1400, or 1600, may be followed by G02, E, N01, N, PH \*

**Power Switching Semi-Conductors**, Model(s) VDI followed by 90 through 1550\*

**Power switching semi-conductors**, Model(s) VDI...P1, VDI100\*, VDI25\*, VDI50\*, VDI75\*, VEE\*, VGO...7, VH013\*, VH014\*, VH015\*, VH016\*, VH017\*, VH018\*, VH019\*, VH020\*, VH021\*, VH022\*, VH023\*, VH024\*, VH025\*, VH026\*, VH027\*, VH028\*, VH029\*, VH030\*, VH031\*, VH032\*, VH033\*, VH034\*, VH035\*, VHF\*, VHF...7, VHF13\*, VHF14\*, VHF15\*, VHF16\*, VHF17\*, VHF18\*, VHF19\*, VHF20\*, VHF21\*, VHF22\*, VHF23\*, VHF24\*, VHF25\*, VHF26\*, VHF27\*, VHF28\*, VHF29\*, VHF30\*, VHF31\*, VHF32\*, VHF33\*, VHF34\*, VHF35\*, VHF36\*, VHF\*, VHM...7, VHO....7

**Power Switching Semi-Conductors**, Model(s) VID followed by 90 through 1550\*

**Power Switching Semi-Conductors**, Model(s) VID may be followed by 15, 24, 25, 33, or 36, followed by 05, 12, 14, 16, 500, 1200, 1400, or 1600, may be followed by G02, E, N01, N, PH \*

**Power switching semi-conductors**, Model(s) VID....P1, VID100\*, VID25\*, VID50\*, VID75\*

**Power Switching Semi-Conductors**, Model(s) VIE followed by 90 through 1550\*

**Power Switching Semi-Conductors**, Model(s) VII followed by 90 through 1550\*

**Power switching semi-conductors**, Model(s) VII....7, VII....P1, VII100\*, VII25\*, VII50\*, VII75\*, VIO....P1, VK013\*, VK014\*, VK015\*, VK016\*, VK017\*, VK018\*, VK019\*, VK020\*, VK021\*, VK022\*, VK023\*, VK024\*, VK025\*, VK026\*, VK027\*, VK028\*, VK029\*, VK030\*, VK031\*, VK032\*, VK033\*, VK034\*, VK035\*, VK036\*, VKI....7, VKI....P1, VKM...7, VKO....7

**Power Switching Semi-Conductors**, Model(s) VMD may be followed by 15, 24, 25, 33, or 36, followed by 05, 12, 14, 16, 500, 1200, 1400, or 1600, may be followed by G02, E, N01, N, PH \*

**Power Switching Semi-Conductors**, Model(s) VMH may be followed by 15, 24, 25, 33, or 36, followed by 05, 12, 14, 16, 500, 1200, 1400, or 1600, may be followed by G02, E, N01, N, PH \*

**Power Switching Semi-Conductors**, Model(s) VMK, VMM, or VMO followed by numbers between 25 and 250.\*

**Power Switching Semi-Conductors**, Model(s) VMM followed by 90 through 1550\*

**Power Switching Semi-Conductors**, Model(s) VMM may be followed by 15, 24, 25, 33, or 36, followed by 05, 12, 14, 16, 500, 1200, 1400, or 1600, may be followed by G02, E, N01, N, PH \*

**Power switching semi-conductors**, Model(s) VMO....P1, VTO....7

**Power Switching Semi-Conductors**, Model(s) VUB followed by additional numbers and/or letters, followed by A5, DL1, io1, io2, ioX, NO1, NO2, or NOX, may be followed by T

**Power switching semi-conductors**, Model(s) VUB\*

**Power Switching Semi-Conductors**, Model(s) VUB, VUO, or VVZB followed by additional numbers and/or letters, followed by NO1, NOX or ioX, may be followed by T.

**Power switching semi-conductors**, Model(s) VUB...P1, VUB...PO1, VUBM....P1

**Power Switching Semi-Conductors**, Model(s) VUBW followed by additional numbers and/or letters, followed by A5, DL1, io1, io2, ioX, NO1, NO2, or NOX, may be followed by T

**Power switching semi-conductors**, Model(s) VUC\*

**Power Switching Semi-Conductors**, Model(s) VUC15 may be followed by 15, 24, 25, 33, or 36, followed by 05, 12, 14, 16, 500, 1200, 1400, or 1600, may be followed by G02, E, N01, N, PH \*

**Power Switching Semi-Conductors**, Model(s) VUC25 may be followed by 15, 24, 25, 33, or 36, followed by 05, 12, 14, 16, 500, 1200, 1400, or 1600, may be followed by G02, E, N01, N, PH \*

**Power Switching Semi-Conductors**, Model(s) VUC36 may be followed by 15, 24, 25, 33, or 36, followed by 05, 12, 14, 16, 500, 1200, 1400, or 1600, may be followed by G02, E, N01, N, PH \*

**Power switching semi-conductors**, Model(s) VUCB\*, VUE\*, VUE.. .NO7, VUI\*, VUI....N7

**Power Switching Semi-Conductors**, Model(s) VUM followed by additional numbers and/or letters, followed by A5, DL1, io1, io2, ioX, NO1, NO2, or NOX, may be followed by T

**Power switching semi-conductors**, Model(s) VUM\*, VUM.....N7

**Power Switching Semi-Conductors**, Model(s) VUM24 may be followed by 15, 24, 25, 33, or 36, followed by 05, 12, 14, 16, 500, 1200, 1400, or 1600, may be followed by G02, E, N01, N, PH \*

**Power Switching Semi-Conductors**, Model(s) VUM33 may be followed by 15, 24, 25, 33, or 36, followed by 05, 12, 14, 16, 500, 1200, 1400, or 1600, may be followed by G02, E, N01, N, PH \*

**Power Switching Semi-Conductors**, Model(s) VUO followed by additional numbers and/or letters, followed by A5, DL1, io1, io2, ioX, NO1, NO2, or NOX, may be followed by T

**Power switching semi-conductors**, Model(s) VUO\*, VUO...7, VUO...NO7, VUO30\*, VUO50\*, VUO60\*

**Power Switching Semi-Conductors**, Model(s) VVBW followed by additional numbers and/or letters, followed by A5, DL1, io1, io2, ioX, NO1, NO2, or NOX, may be followed by T

**Power switching semi-conductors**, Model(s) VVY\*, VVY12\*, VVY24\*, VVY40\*

**Power Switching Semi-Conductors**, Model(s) VVZ followed by additional numbers and/or letters, followed by A5, DL1, io1, io2, ioX, NO1, NO2, or NOX, may be followed by T

**Power switching semi-conductors**, Model(s) VVZ\*, VVZ....7, VVZ12\*, VVZ24\*, VVZ40\*

**Power Switching Semi-Conductors**, Model(s) VVZB followed by additional numbers and/or letters, followed by A5, DL1, io1, io2, ioX, NO1, NO2, or NOX, may be followed by T

**Power switching semi-conductors**, Model(s) VW2X\*, VW3....7, VWI....P1

**Power Switching Semi-Conductors**, Model(s) VWM followed by additional numbers and/or letters, followed by A5, DL1, io1, io2, ioX, NO1, NO2, or NOX, may be followed by T

**Power switching semi-conductors**, Model(s) VWM....7

**Power Switching Semi-Conductors**, Model(s) VWO followed by additional numbers and/or letters, followed by A5, DL1, io1, io2, ioX, NO1, NO2, or NOX, may be followed by T

**Power switching semi-conductors**, Model(s) VWO....7, VZI....P1

**Power switching semi-conductors, package SOT-227B, miniBloc**, Model(s) DH1X\*, DH2X\*, DSEI\*, DSEP\*, DSI\*, DSS\*, IXDN\*, IXEN\*, IXFN\*, IXGN\*, IXKN\*, IXLN\*, IXSN\*, IXTN\*, IXUN\*, VBE\*, VBO\*, VBS\*

**Semi-conductor diodes, thyristors, IGBTs or MOSFETS, "ISOPLUS-247 package"**, Model(s) IXDR%, IXER%, IXFR%, IXKR%

**Semi-conductor diodes, thyristors, IGBTs or MOSFETS, "ISOPLUS220 package"**, Model(s) IXKC\*

# - Followed by up to 15 numbers and letters.

% - Followed by up to 10 numbers and letters.

\* - May be followed by additional numbers or letters.



Marking: Company name or trademark and model designation.

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#### IXYS CORP

E153432

1590 BUCKEYE DR  
MILPITAS, CA 95035-7418 USA

**Power Switching Semi-Conductors**, Model(s) CS followed by additional letters and/or numbers, followed by M.

**Power Switching Semi-Conductors**, Model(s) D followed by additional letters and/or numbers, followed by M.

**Power Switching Semi-Conductors**, Model(s) D, C, M or I followed by additional letters and/or numbers, followed by PN or PM.

**Power Switching Semi-Conductors**, Model(s) DS followed by additional letters and/or numbers, followed by M.

**Power Switching Semi-Conductors**, Model(s) IX followed by additional letters and/or numbers, followed by M.

**Power Switching Semi-Conductors**, Model(s) IX followed by an upper case letter, followed by N, followed by any number 01 through 99999, followed by additional numbers and letters.

**Semi-conductor diodes, thyristors, IGBT or MOSFETS, ISO247 package**, Model(s) IX J Series IX, followed by one letter B, C, D, E, F, G, H, K, L, S, T, U, X, or Y, followed by J, may be followed by 01-09, 1R1-1R9, 1-9, 10-99, or 100-999 may be followed by N or P, may be followed by 01-10, 1-99 or 100-800, may be followed by up to six alpha-numeric characters.

**Semi-conductor diodes, thyristors, IGBT or MOSFETS, ISOPLUS I4-PAC package**, Model(s) IX F Series IX, followed by one letter B, C, D, E, F, G, H, K, L, S, T, U, X, or Y, followed by F, may be followed by 01-09, 1R1-1R9, 1-9, 10-99, or 100-999 may be followed by N or P, may be followed by 01-10, 1-99 or 100-800, may be followed by up to six alpha-numeric characters.

**Semi-conductor diodes, thyristors, IGBT or MOSFETS, ISOPLUS SMPD package**, Model(s) IXM2001 IX, followed by one letter B, C, D, E, F, G, H, K, L, S, T, U, X, or Y, followed by L, may be followed by 01-09, 1R1-1R9, 1-9, 10-99, or 100-999 may be followed by N or P, may be followed by 01-10, 1-99 or 100-800, may be followed by up to six alpha-numeric characters.

**Semi-conductor diodes, thyristors, IGBT or MOSFETS, ISOPLUS SMPD package**, Model(s) MDIX4X30N65B3 IX, followed by one letter B, C, D, E, F, G, H, K, L, S, T, U, X, or Y, followed by L, may be followed by 01-09, 1R1-1R9, 1-9, 10-99, or 100-999 may be followed by N or P, may be followed by 01-10, 1-99 or 100-800, may be followed by up to six alpha-numeric characters.

**Semi-conductor diodes, thyristors, IGBT or MOSFETS, ISOPLUS SMPD package**, Model(s) MMIX IX, followed by one letter B, C, D, E, F, G, H, K, L, S, T, U, X, or Y, followed by L, may be followed by 01-09, 1R1-1R9, 1-9, 10-99, or 100-999 may be followed by N or P, may be followed by 01-10, 1-99 or 100-800, may be followed by up to six alpha-numeric characters.

**Semi-conductor diodes, thyristors, IGBT or MOSFETS, ISOPLUS SMPD package**, Model(s) MMIX1992 IX, followed by one letter B, C, D, E, F, G, H, K, L, S, T, U, X, or Y, followed by L, may be followed by 01-09, 1R1-1R9, 1-9, 10-99, or 100-999 may be followed by N or P, may be followed by 01-10, 1-99 or 100-800, may be followed by up to six alpha-numeric characters.

**Semi-conductor diodes, thyristors, IGBT or MOSFETS, ISOPLUS220 package**, Model(s) IX followed by one letter B, C, D, E, F, G, H, K, L, S, T, U, X, or Y, followed by C, may be followed by 01-09, 1R1-1R9, 1-9, 10-99, or 100-999 may be followed by N or P, may be followed by 01-10, 1-99 or 100-800, may be followed by up to six alpha-numeric characters.

**Semi-conductor diodes, thyristors, IGBT or MOSFETS, ISOPLUS264 package**, Model(s) IX L Series IX, followed by one letter B, C, D, E, F, G, H, K, L, S, T, U, X, or Y, followed by L, may be followed by 01-09, 1R1-1R9, 1-9, 10-99, or 100-999 may be followed by N or P, may be followed by 01-10, 1-99 or 100-800, may be followed by up to six alpha-numeric characters.

**Semi-conductor diodes, thyristors, IGBT or MOSFETS, SSMPD package**, Model(s) MMJX MMJX, followed by 1, 2, 3, followed by B, C, D, E, F, G, H, K, L, S, T, U, X, or Y, followed by number 1-999, followed by N or P, followed by number 1-800, may be followed by up to 6 alpha-numeric characters.

**Semi-conductor diodes, thyristors, or MOSFETS, 247 hole-less package**, Model(s) DSE (a), IXBR (a), IXGR (a), IXL R (a), IXSR (a), IXTR (a)

**Semi-conductor diodes, thyristors, or MOSFETS, ISOPLUS247 package**, Model(s) IX followed by one letter B, C, D, E, F, G, H, K, L, S, T, U, X, or Y, followed by R, may be followed by 01-09, 1R1-1R9, 1-9, 10-99, or 100-999 may be followed by N or P, may be followed by 01-10, 1-99 or 100-800, may be followed by up to six alpha-numeric characters.

(a) - Followed by up to 10 numbers and letters.

Marking: Company name and model designation.

Last Updated on 2018-08-29

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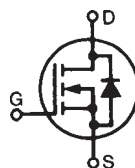
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## Polar3™ HiPerFET™ Power MOSFET

### IXFL132N50P3

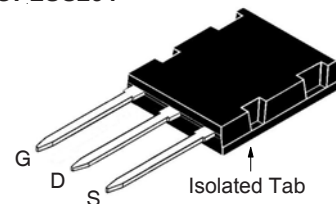
(Electrically Isolated Tab)

N-Channel Enhancement Mode  
Avalanche Rated  
Fast Intrinsic Rectifier



$$\begin{aligned} V_{DSS} &= 500V \\ I_{D25} &= 63A \\ R_{DS(on)} &\leq 43m\Omega \\ t_{rr} &\leq 250ns \end{aligned}$$

ISOPLUS264



G = Gate    D = Drain  
S = Source

| Symbol     | Test Conditions                                                          | Maximum Ratings |                  |
|------------|--------------------------------------------------------------------------|-----------------|------------------|
| $V_{DSS}$  | $T_J = 25^\circ\text{C}$ to $150^\circ\text{C}$                          | 500             | V                |
| $V_{DGR}$  | $T_J = 25^\circ\text{C}$ to $150^\circ\text{C}$ , $R_{GS} = 1M\Omega$    | 500             | V                |
| $V_{GSS}$  | Continuous                                                               | $\pm 30$        | V                |
| $V_{GSM}$  | Transient                                                                | $\pm 40$        | V                |
| $I_{D25}$  | $T_C = 25^\circ\text{C}$                                                 | 63              | A                |
| $I_{DM}$   | $T_C = 25^\circ\text{C}$ , Pulse Width Limited by $T_{JM}$               | 330             | A                |
| $I_A$      | $T_C = 25^\circ\text{C}$                                                 | 66              | A                |
| $E_{AS}$   | $T_C = 25^\circ\text{C}$                                                 | 2               | J                |
| $dv/dt$    | $I_S \leq I_{DM}$ , $V_{DD} \leq V_{DSS}$ , $T_J \leq 150^\circ\text{C}$ | 35              | V/ns             |
| $P_D$      | $T_C = 25^\circ\text{C}$                                                 | 520             | W                |
| $T_J$      |                                                                          | -55 ... +150    | $^\circ\text{C}$ |
| $T_{JM}$   |                                                                          | 150             | $^\circ\text{C}$ |
| $T_{stg}$  |                                                                          | -55 ... +150    | $^\circ\text{C}$ |
| $T_L$      | Maximum Lead Temperature for Soldering                                   | 300             | $^\circ\text{C}$ |
| $T_{SOLD}$ | Plastic Body for 10s                                                     | 260             | $^\circ\text{C}$ |
| $F_C$      | Mounting Force                                                           | 40..120 / 9..27 | N/lb.            |
| $V_{ISOL}$ | 50/60 Hz, RMS $t = 1$ min                                                | 2500            | V~               |
|            | $I_{ISOL} \leq 1$ mA $t = 1$ s                                           | 3000            | V~               |
| Weight     |                                                                          | 8               | g                |

### Features

- Silicon Chip on Direct-Copper-Bond Substrate
  - High Power Dissipation
  - Isolated Mounting Surface
  - 2500V~ Electrical Isolation
- Avalanche Rated
- Low Package Inductance
- Fast Intrinsic Rectifier
- Low  $R_{DS(on)}$  and  $Q_G$

### Advantages

- Easy to Mount
- Space Savings

### Applications

- DC-DC Converters
- Battery Chargers
- Switch-Mode and Resonant-Mode Power Supplies
- Uninterrupted Power Supplies
- AC Motor Drives
- High Speed Power Switching Applications

| Symbol       | Test Conditions<br>( $T_J = 25^\circ\text{C}$ Unless Otherwise Specified) | Characteristic Values |      |                    |
|--------------|---------------------------------------------------------------------------|-----------------------|------|--------------------|
|              |                                                                           | Min.                  | Typ. | Max.               |
| $BV_{DSS}$   | $V_{GS} = 0V$ , $I_D = 3mA$                                               | 500                   |      | V                  |
| $V_{GS(th)}$ | $V_{DS} = V_{GS}$ , $I_D = 8mA$                                           | 3.0                   |      | 5.0 V              |
| $I_{GSS}$    | $V_{GS} = \pm 30V$ , $V_{DS} = 0V$                                        |                       |      | $\pm 200$ nA       |
| $I_{DSS}$    | $V_{DS} = V_{DSS}$ , $V_{GS} = 0V$<br>$T_J = 125^\circ\text{C}$           |                       |      | 50 $\mu A$<br>3 mA |
| $R_{DS(on)}$ | $V_{GS} = 10V$ , $I_D = 66A$ , Note 1                                     |                       |      | 43 m $\Omega$      |

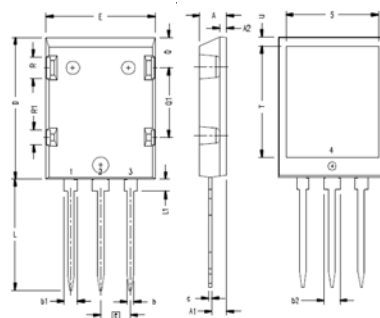
| Symbol       | Test Conditions<br>( $T_J = 25^\circ\text{C}$ Unless Otherwise Specified)                                                                   | Characteristic Values |      |                        |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------|------------------------|
|              |                                                                                                                                             | Min.                  | Typ. | Max.                   |
| $g_{fs}$     | $V_{DS} = 10\text{V}$ , $I_D = 60\text{A}$ , Note 1                                                                                         | 68                    | 110  | S                      |
| $C_{iss}$    | $V_{GS} = 0\text{V}$ , $V_{DS} = 25\text{V}$ , $f = 1\text{MHz}$                                                                            |                       | 18.6 | nF                     |
| $C_{oss}$    |                                                                                                                                             |                       | 1710 | pF                     |
| $C_{rss}$    |                                                                                                                                             |                       | 12   | pF                     |
| $R_{Gi}$     | Gate Input Resistance                                                                                                                       |                       | 1.16 | $\Omega$               |
| $t_{d(on)}$  | <b>Resistive Switching Times</b><br>$V_{GS} = 10\text{V}$ , $V_{DS} = 0.5 \cdot V_{DSS}$ , $I_D = 66\text{A}$<br>$R_G = 1\Omega$ (External) |                       | 42   | ns                     |
| $t_r$        |                                                                                                                                             |                       | 18   | ns                     |
| $t_{d(off)}$ |                                                                                                                                             |                       | 90   | ns                     |
| $t_f$        |                                                                                                                                             |                       | 15   | ns                     |
| $Q_{g(on)}$  | $V_{GS} = 10\text{V}$ , $V_{DS} = 0.5 \cdot V_{DSS}$ , $I_D = 66\text{A}$                                                                   |                       | 267  | nC                     |
| $Q_{gs}$     |                                                                                                                                             |                       | 95   | nC                     |
| $Q_{gd}$     |                                                                                                                                             |                       | 63   | nC                     |
| $R_{thJC}$   |                                                                                                                                             |                       |      | $0.24^\circ\text{C/W}$ |
| $R_{thCS}$   |                                                                                                                                             |                       | 0.15 | $^\circ\text{C/W}$     |

## Source-Drain Diode

| Symbol   | Test Conditions<br>( $T_J = 25^\circ\text{C}$ Unless Otherwise Specified)                             | Characteristic Values |      |               |
|----------|-------------------------------------------------------------------------------------------------------|-----------------------|------|---------------|
|          |                                                                                                       | Min.                  | Typ. | Max.          |
| $I_S$    | $V_{GS} = 0\text{V}$                                                                                  |                       |      | 132 A         |
| $I_{SM}$ | Repetitive, Pulse Width Limited by $T_{JM}$                                                           |                       |      | 530 A         |
| $V_{SD}$ | $I_F = 100\text{A}$ , $V_{GS} = 0\text{V}$ , Note 1                                                   |                       |      | 1.5 V         |
| $t_{rr}$ | $I_F = 66\text{A}$ , $-di/dt = 100\text{A}/\mu\text{s}$<br>$V_R = 100\text{V}$ , $V_{GS} = 0\text{V}$ |                       |      | 250 ns        |
| $Q_{RM}$ |                                                                                                       |                       | 1.9  | $\mu\text{C}$ |
| $I_{RM}$ |                                                                                                       |                       | 16.4 | A             |

Note 1. Pulse test,  $t \leq 300\mu\text{s}$ , duty cycle,  $d \leq 2\%$ .

## ISOPLUS264 (IXFL) OUTLINE



1 = Gate  
2,4 = Drain  
3 = Source

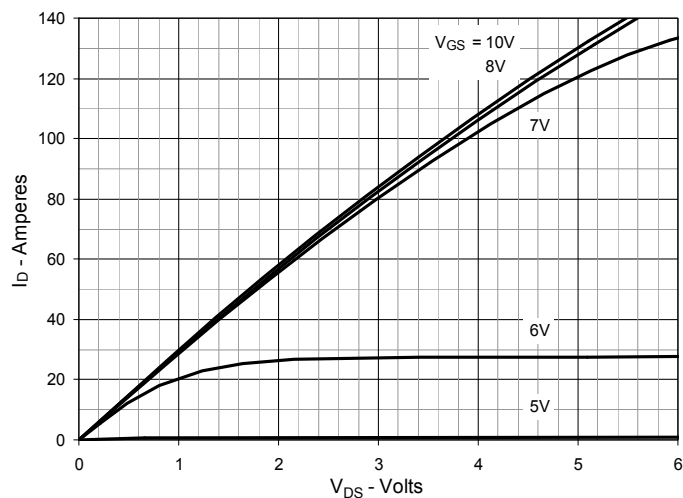
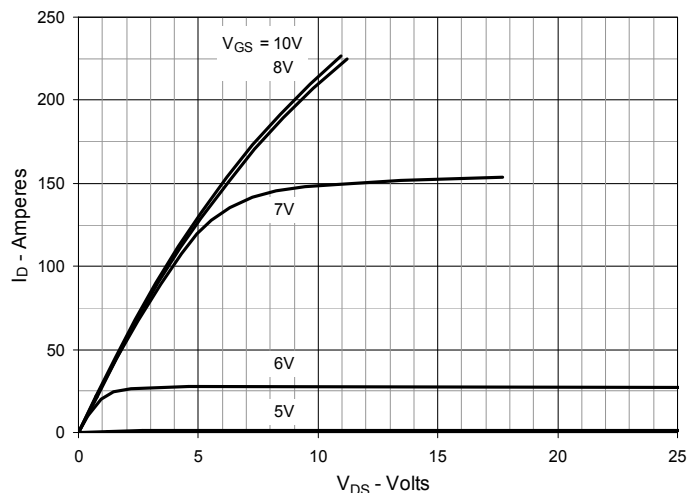
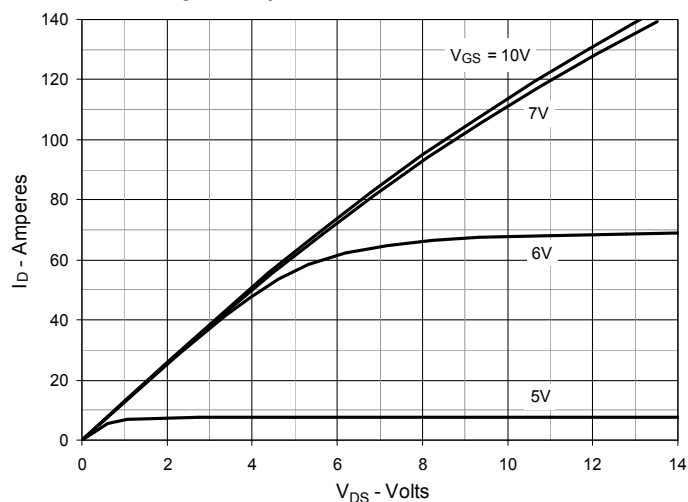
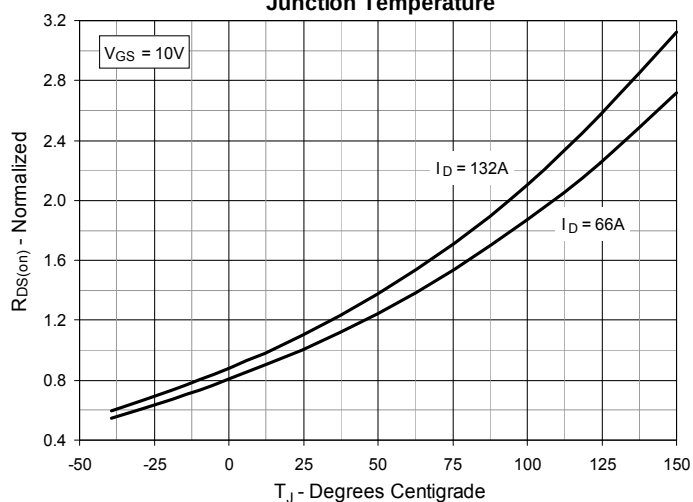
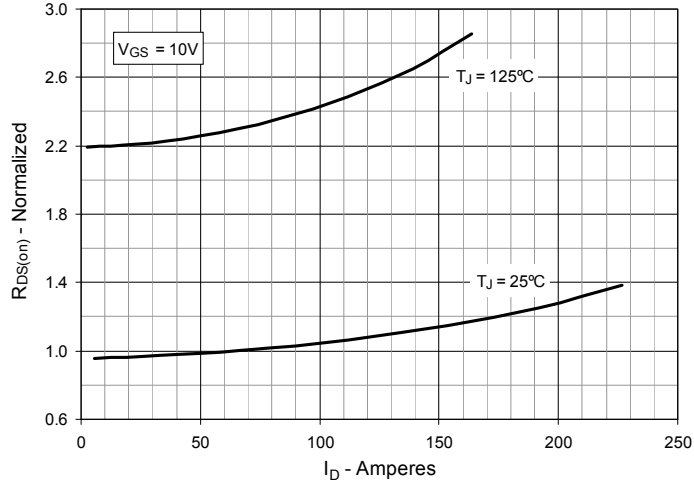
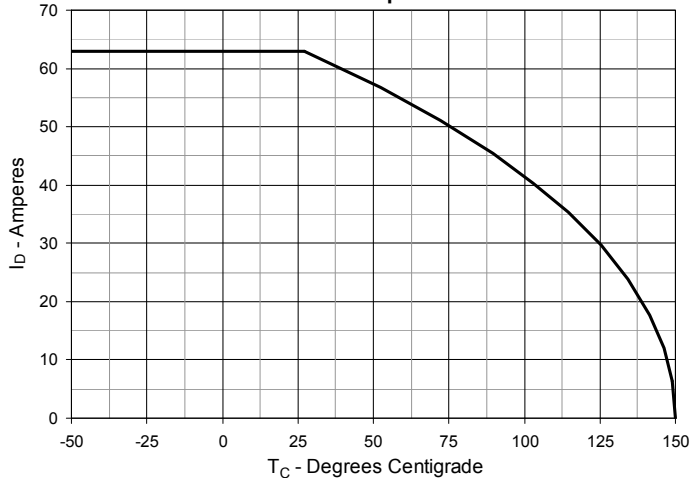
| SYM | INCHES   |       | MILLIMETERS |       |
|-----|----------|-------|-------------|-------|
|     | MIN      | MAX   | MIN         | MAX   |
| A   | .190     | .205  | 4.83        | 5.21  |
| A1  | .102     | .118  | 2.59        | 3.00  |
| A2  | .046     | .055  | 1.17        | 1.40  |
| b   | .045     | .055  | 1.14        | 1.40  |
| b1  | .087     | .102  | 2.21        | 2.59  |
| b2  | .111     | .126  | 2.82        | 3.20  |
| c   | .020     | .029  | 0.51        | 0.74  |
| D   | 1.020    | 1.040 | 25.91       | 26.42 |
| E   | .770     | .799  | 19.56       | 20.29 |
| e   | .215 BSC |       | 5.46 BSC    |       |
| L   | .780     | .820  | 19.81       | 20.83 |
| L1  | .080     | .102  | 2.03        | 2.59  |
| Q   | .210     | .235  | 5.33        | 5.97  |
| Q1  | .490     | .513  | 12.45       | 13.03 |
| R   | .150     | .180  | 3.81        | 4.57  |
| R1  | .100     | .130  | 2.54        | 3.30  |
| S   | .668     | .690  | 16.97       | 17.53 |
| T   | .801     | .821  | 20.34       | 20.85 |
| U   | .065     | .080  | 1.65        | 2.03  |

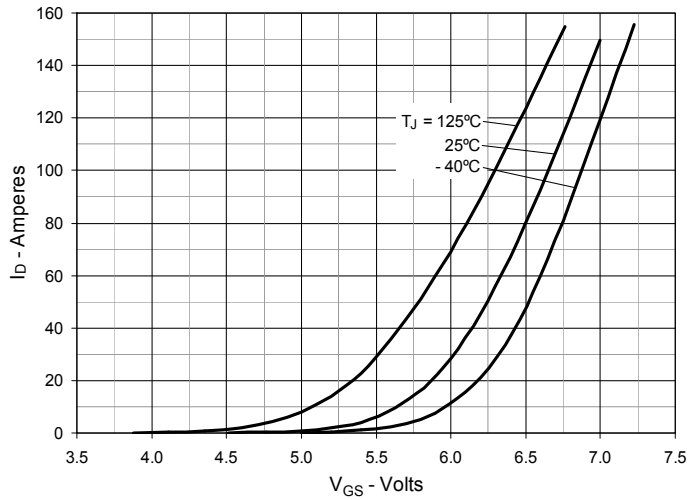
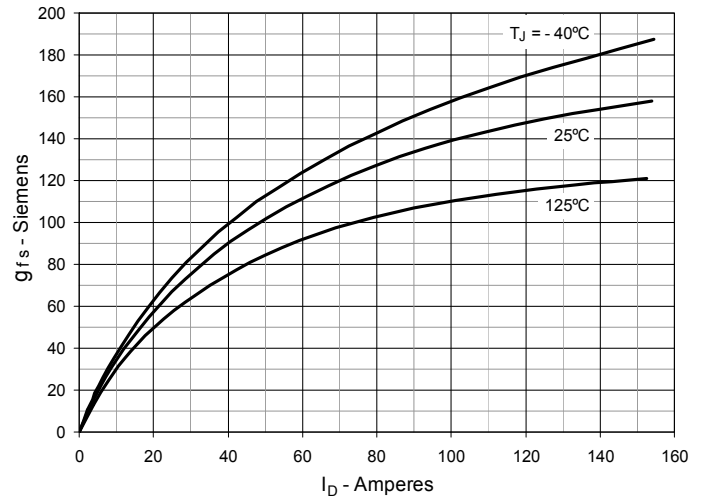
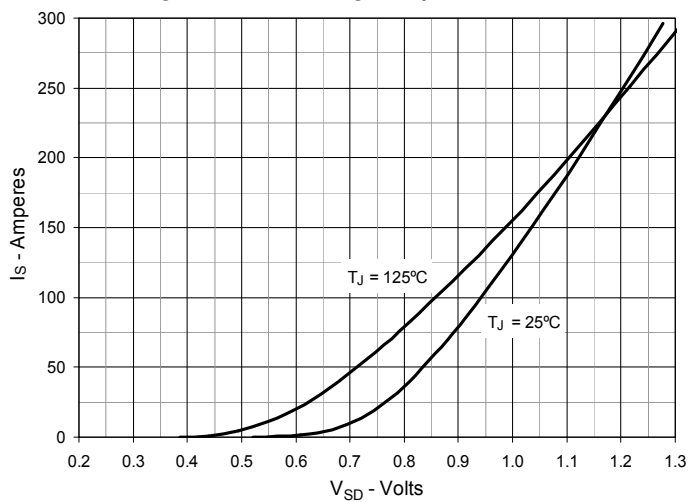
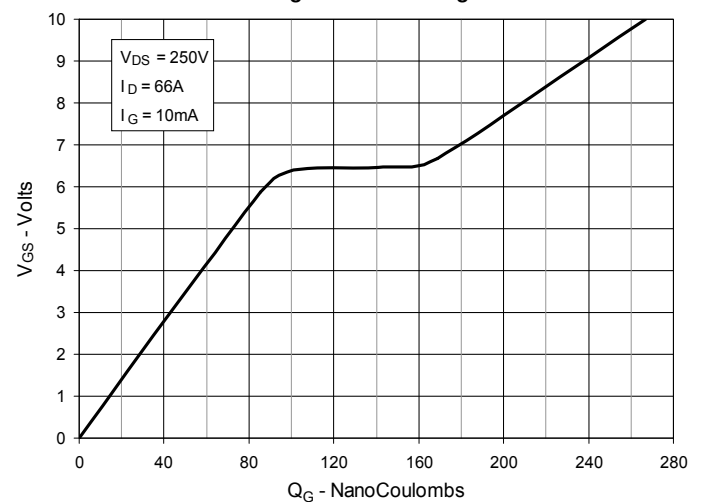
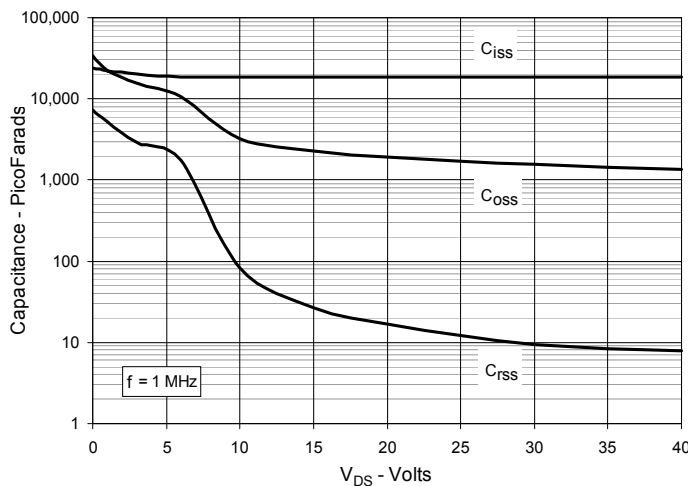
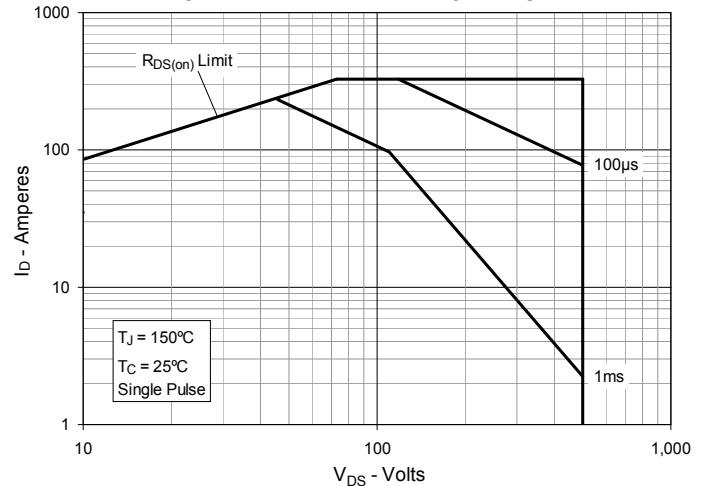
IXYS Reserves the Right to Change Limits, Test Conditions, and Dimensions.

IXYS MOSFETs and IGBTs are covered by one or more of the following U.S. patents:

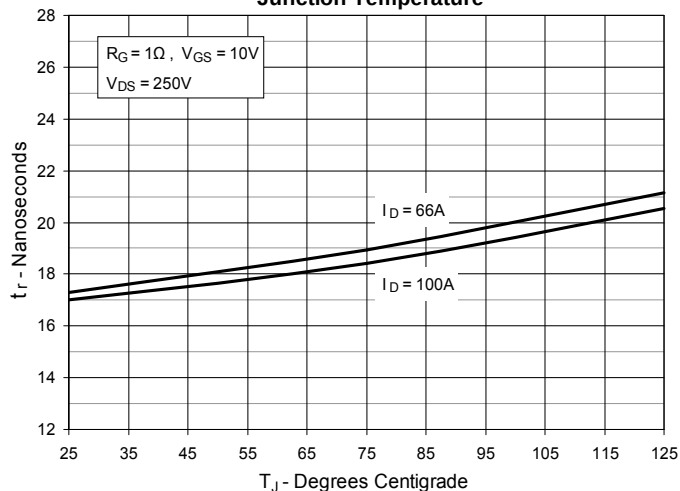
|           |           |           |           |              |              |              |              |              |             |
|-----------|-----------|-----------|-----------|--------------|--------------|--------------|--------------|--------------|-------------|
| 4,835,592 | 4,931,844 | 5,049,961 | 5,237,481 | 6,162,665    | 6,404,065 B1 | 6,683,344    | 6,727,585    | 7,005,734 B2 | 7,157,338B2 |
| 4,860,072 | 5,017,508 | 5,063,307 | 5,381,025 | 6,259,123 B1 | 6,534,343    | 6,710,405 B2 | 6,759,692    | 7,063,975 B2 |             |
| 4,881,106 | 5,034,796 | 5,187,117 | 5,486,715 | 6,306,728 B1 | 6,583,505    | 6,710,463    | 6,771,478 B2 | 7,071,537    |             |



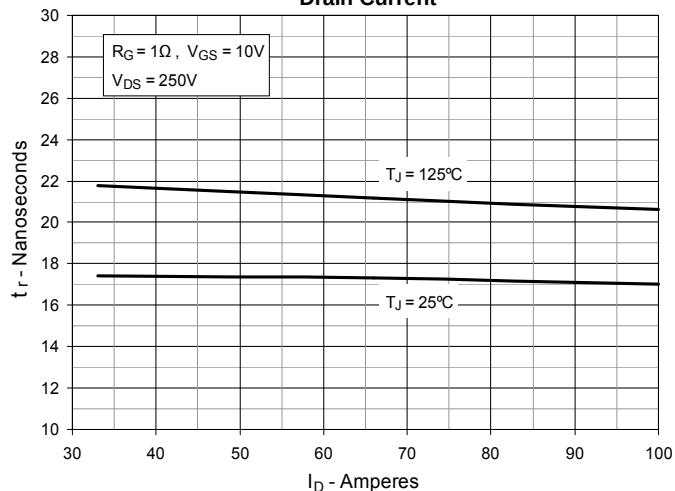
**Fig. 1. Output Characteristics @  $T_J = 25^\circ\text{C}$** 

**Fig. 2. Extended Output Characteristics @  $T_J = 25^\circ\text{C}$** 

**Fig. 3. Output Characteristics @  $T_J = 125^\circ\text{C}$** 

**Fig. 4.  $R_{DS(on)}$  Normalized to  $I_D = 66\text{A}$  Value vs. Junction Temperature**

**Fig. 5.  $R_{DS(on)}$  Normalized to  $I_D = 66\text{A}$  Value vs. Drain Current**

**Fig. 6. Maximum Drain Current vs. Case Temperature**


**Fig. 7. Input Admittance**

**Fig. 8. Transconductance**

**Fig. 9. Forward Voltage Drop of Intrinsic Diode**

**Fig. 10. Gate Charge**

**Fig. 11. Capacitance**

**Fig. 12. Forward-Bias Safe Operating Area**


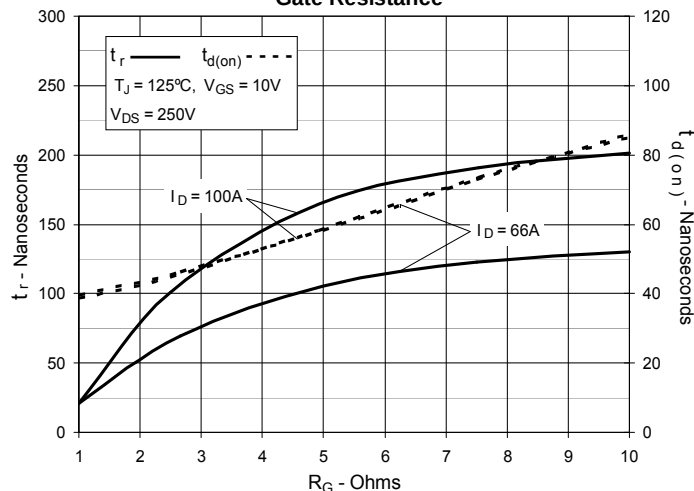
**Fig. 13. Resistive Turn-on Rise Time vs. Junction Temperature**



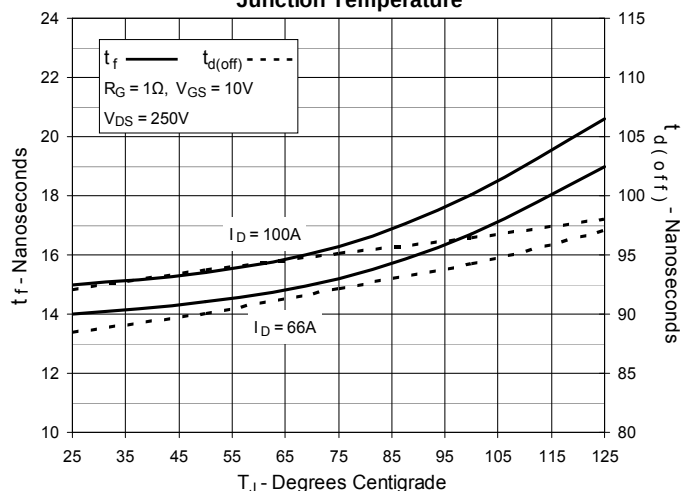
**Fig. 14. Resistive Turn-on Rise Time vs. Drain Current**



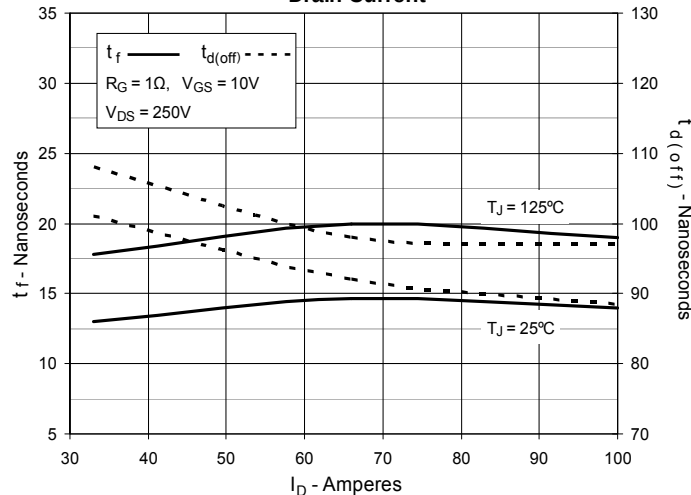
**Fig. 15. Resistive Turn-on Switching Times vs. Gate Resistance**



**Fig. 16. Resistive Turn-off Switching Times vs. Junction Temperature**



**Fig. 17. Resistive Turn-off Switching Times vs. Drain Current**



**Fig. 18. Resistive Turn-off Switching Times vs. Gate Resistance**

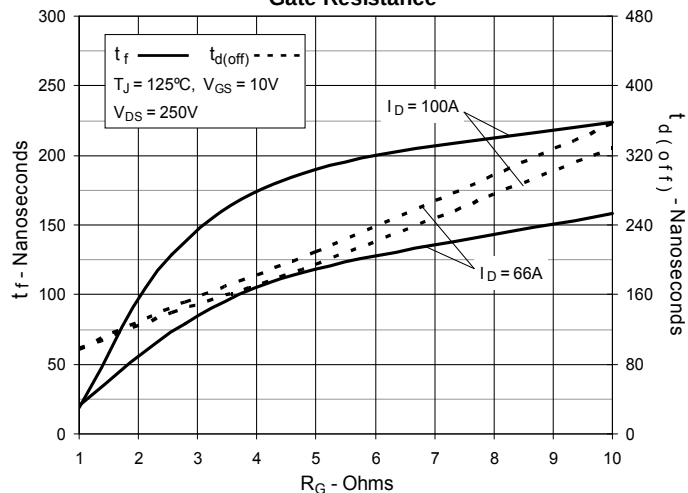
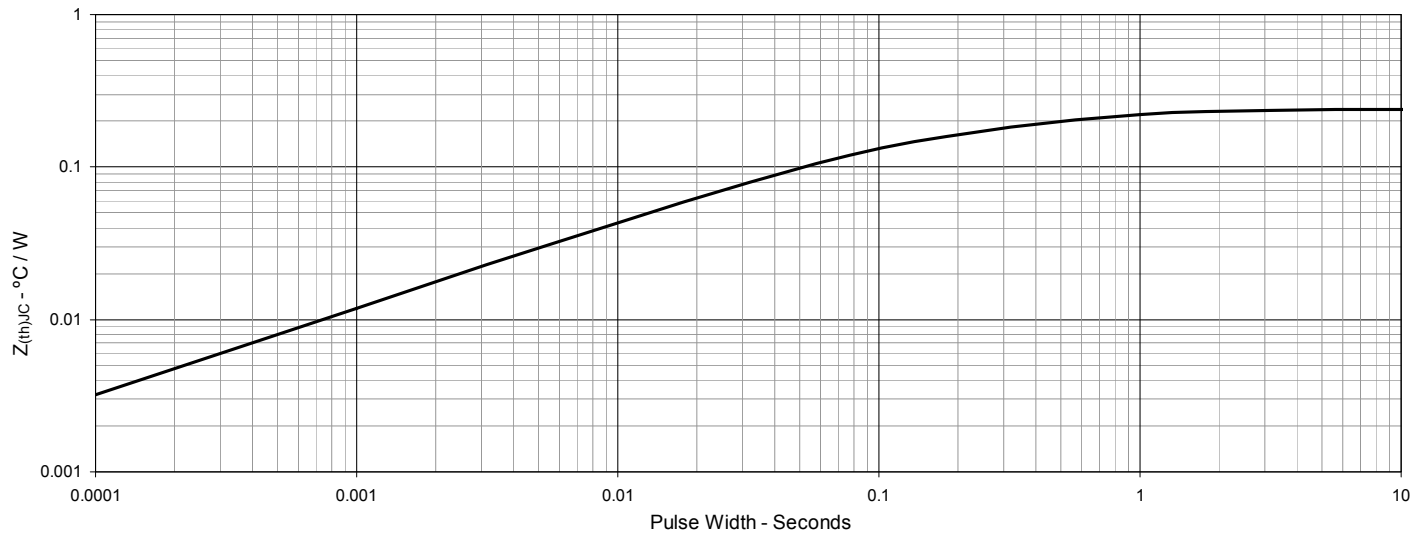


Fig. 19. Maximum Transient Thermal Impedance





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