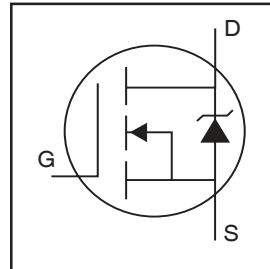


IRF3710PbF

HEXFET® Power MOSFET

- Advanced Process Technology
- Ultra Low On-Resistance
- Dynamic dv/dt Rating
- 175°C Operating Temperature
- Fast Switching
- Fully Avalanche Rated
- Lead-Free

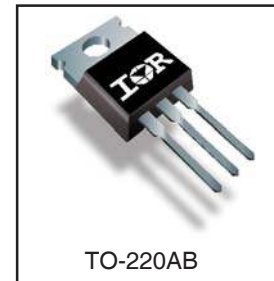


$V_{DSS} = 100V$
$R_{DS(on)} = 23m\Omega$
$I_D = 57A$

Description

Advanced HEXFET® Power MOSFETs from International Rectifier utilize advanced processing techniques to achieve extremely low on-resistance per silicon area. This benefit, combined with the fast switching speed and ruggedized device design that HEXFET power MOSFETs are well known for, provides the designer with an extremely efficient and reliable device for use in a wide variety of applications.

The TO-220 package is universally preferred for all commercial-industrial applications at power dissipation levels to approximately 50 watts. The low thermal resistance and low package cost of the TO-220 contribute to its wide acceptance throughout the industry.



Absolute Maximum Ratings

	Parameter	Max.	Units
$I_D @ T_C = 25^\circ C$	Continuous Drain Current, $V_{GS} @ 10V$	57	A
$I_D @ T_C = 100^\circ C$	Continuous Drain Current, $V_{GS} @ 10V$	40	
I_{DM}	Pulsed Drain Current ①	180	
$P_D @ T_C = 25^\circ C$	Power Dissipation	200	W
	Linear Derating Factor	1.3	W/°C
V_{GS}	Gate-to-Source Voltage	± 20	V
I_{AR}	Avalanche Current ②	28	A
E_{AR}	Repetitive Avalanche Energy ②	20	mJ
dv/dt	Peak Diode Recovery dv/dt ③	5.8	V/ns
T_J	Operating Junction and	-55 to + 175	°C
T_{STG}	Storage Temperature Range		
	Soldering Temperature, for 10 seconds		
	Mounting torque, 6-32 or M3 screw	10 lbf•in (1.1N•m)	

Thermal Resistance

	Parameter	Typ.	Max.	Units
$R_{\theta JC}$	Junction-to-Case	—	0.75	°C/W
$R_{\theta CS}$	Case-to-Sink, Flat, Greased Surface	0.50	—	
$R_{\theta JA}$	Junction-to-Ambient	—	62	

Electrical Characteristics @ T_J = 25°C (unless otherwise specified)

	Parameter	Min.	Typ.	Max.	Units	Conditions
V _{(BR)DSS}	Drain-to-Source Breakdown Voltage	100	—	—	V	V _{GS} = 0V, I _D = 250μA
ΔV _{(BR)DSS} /ΔT _J	Breakdown Voltage Temp. Coefficient	—	0.13	—	V/°C	Reference to 25°C, I _D = 1mA
R _{DS(on)}	Static Drain-to-Source On-Resistance	—	—	23	mΩ	V _{GS} = 10V, I _D = 28A ④
V _{GS(th)}	Gate Threshold Voltage	2.0	—	4.0	V	V _{DS} = V _{GS} , I _D = 250μA
g _{fs}	Forward Transconductance	32	—	—	S	V _{DS} = 25V, I _D = 28A④
I _{DSS}	Drain-to-Source Leakage Current	—	—	25	μA	V _{DS} = 100V, V _{GS} = 0V
		—	—	250		V _{DS} = 80V, V _{GS} = 0V, T _J = 150°C
I _{GSS}	Gate-to-Source Forward Leakage	—	—	100	nA	V _{GS} = 20V
	Gate-to-Source Reverse Leakage	—	—	-100		V _{GS} = -20V
Q _g	Total Gate Charge	—	—	130	nC	I _D = 28A
Q _{gs}	Gate-to-Source Charge	—	—	26		V _{DS} = 80V
Q _{gd}	Gate-to-Drain ("Miller") Charge	—	—	43		V _{GS} = 10V, See Fig. 6 and 13
t _{d(on)}	Turn-On Delay Time	—	12	—	ns	V _{DD} = 50V
t _r	Rise Time	—	58	—		I _D = 28A
t _{d(off)}	Turn-Off Delay Time	—	45	—		R _G = 2.5Ω
t _f	Fall Time	—	47	—		V _{GS} = 10V, See Fig. 10 ④
L _D	Internal Drain Inductance	—	4.5	—	nH	Between lead, 6mm (0.25in.) from package and center of die contact
L _S	Internal Source Inductance	—	7.5	—		
C _{iss}	Input Capacitance	—	3130	—	pF	V _{GS} = 0V
C _{oss}	Output Capacitance	—	410	—		V _{DS} = 25V
C _{rss}	Reverse Transfer Capacitance	—	72	—		f = 1.0MHz, See Fig. 5
E _{AS}	Single Pulse Avalanche Energy②	—	1060③	280⑥		mJ

Source-Drain Ratings and Characteristics

	Parameter	Min.	Typ.	Max.	Units	Conditions
I _S	Continuous Source Current (Body Diode)	—	—	57	A	MOSFET symbol showing the integral reverse p-n junction diode.
I _{SM}	Pulsed Source Current (Body Diode)①	—	—	230		
V _{SD}	Diode Forward Voltage	—	—	1.2	V	T _J = 25°C, I _S = 28A, V _{GS} = 0V ④
t _{rr}	Reverse Recovery Time	—	140	220	ns	T _J = 25°C, I _F = 28A
Q _{rr}	Reverse Recovery Charge	—	670	1010	nC	di/dt = 100A/μs ④
t _{on}	Forward Turn-On Time	Intrinsic turn-on time is negligible (turn-on is dominated by L _S +L _D)				

Notes:

- ① Repetitive rating; pulse width limited by max. junction temperature. (See fig. 11)
- ② Starting T_J = 25°C, L = 0.70mH
R_G = 25Ω, I_{AS} = 28A, V_{GS} = 10V (See Figure 12)
- ③ I_{SD} ≤ 28A, di/dt ≤ 380A/μs, V_{DD} ≤ V_{(BR)DSS},
T_J ≤ 175°C
- ④ Pulse width ≤ 400μs; duty cycle ≤ 2%.
- ⑤ This is a typical value at device destruction and represents operation outside rated limits.
- ⑥ This is a calculated value limited to T_J = 175°C .

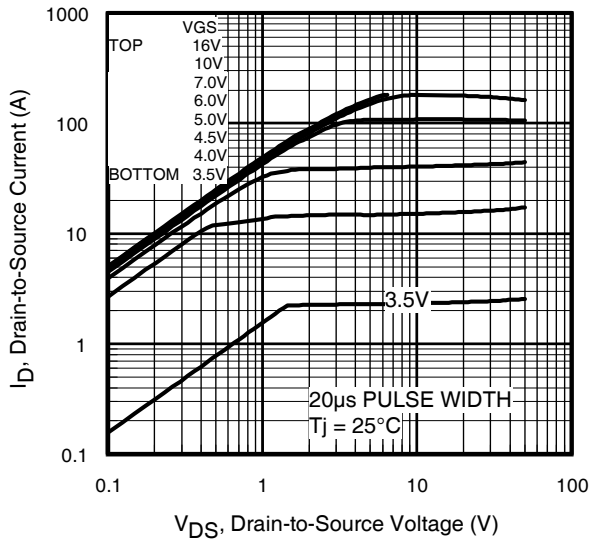


Fig 1. Typical Output Characteristics

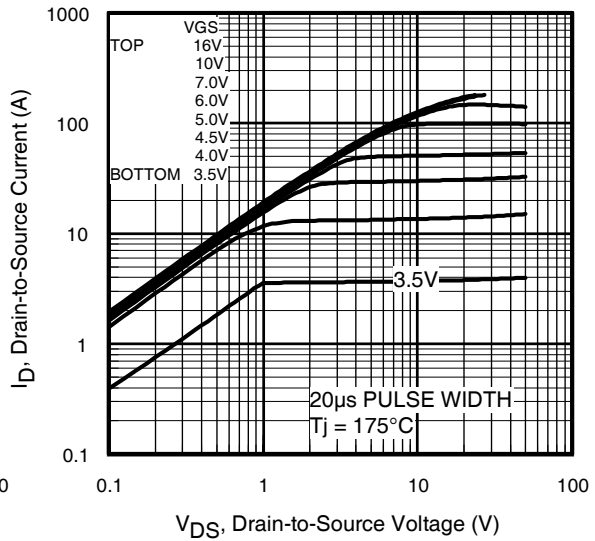


Fig 2. Typical Output Characteristics

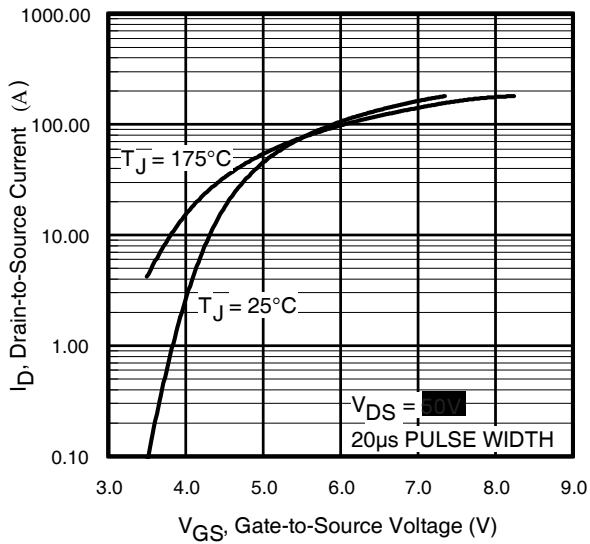


Fig 3. Typical Transfer Characteristics

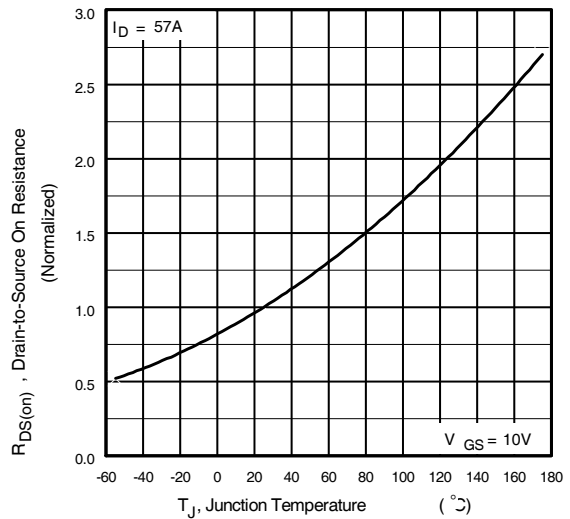


Fig 4. Normalized On-Resistance Vs. Temperature

IRF3710PbF

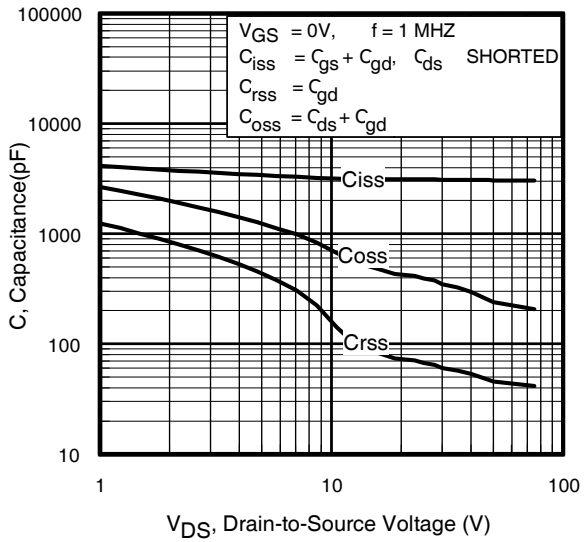


Fig 5. Typical Capacitance Vs. Drain-to-Source Voltage

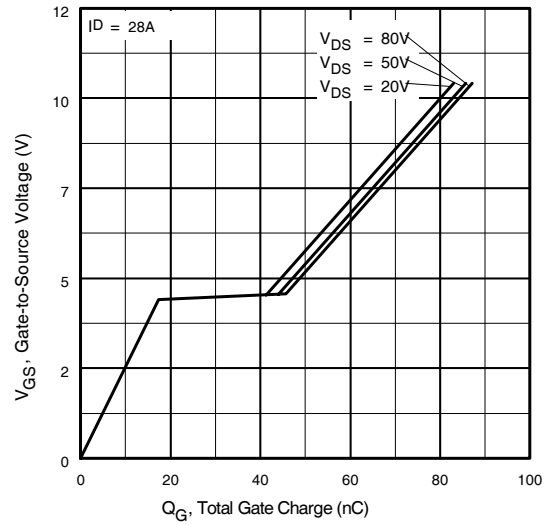


Fig 6. Typical Gate Charge Vs. Gate-to-Source Voltage

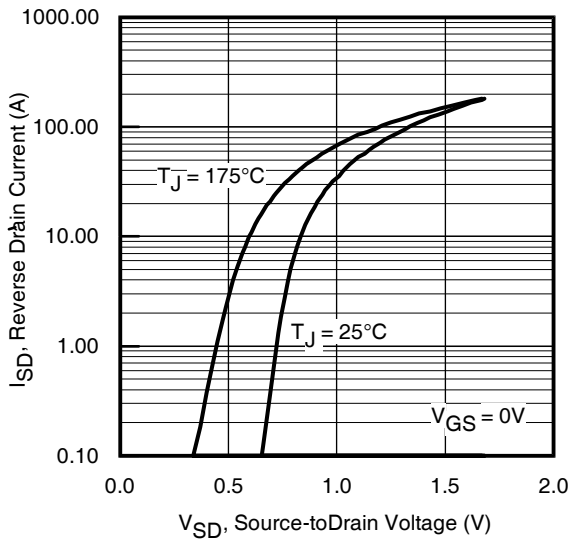


Fig 7. Typical Source-Drain Diode Forward Voltage

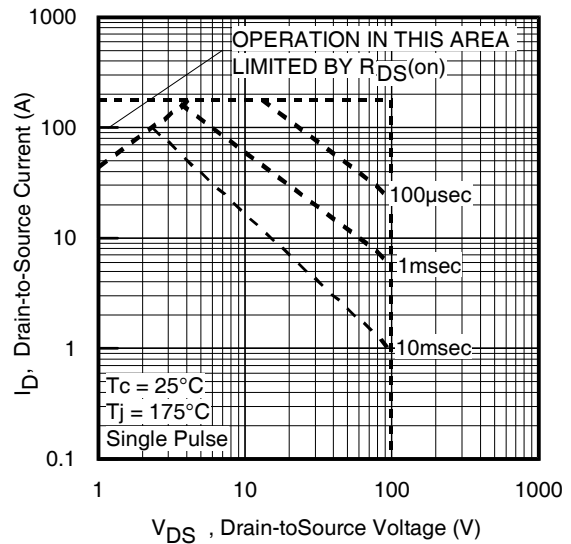


Fig 8. Maximum Safe Operating Area

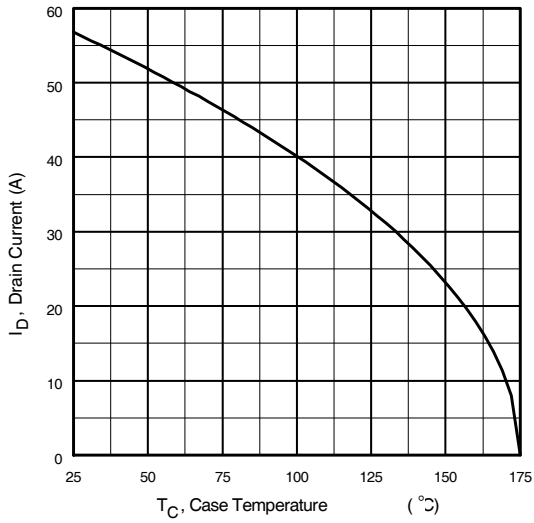


Fig 9. Maximum Drain Current Vs. Case Temperature

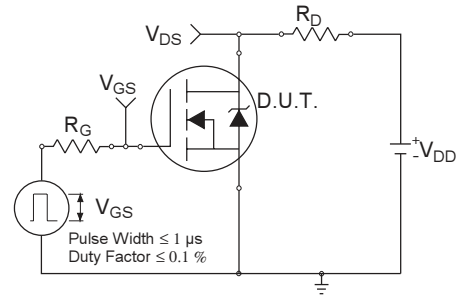


Fig 10a. Switching Time Test Circuit

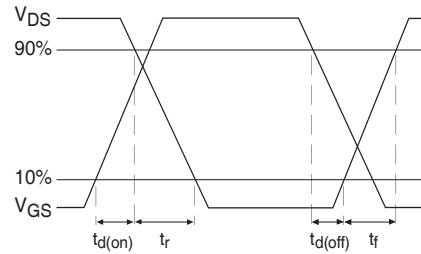


Fig 10b. Switching Time Waveforms

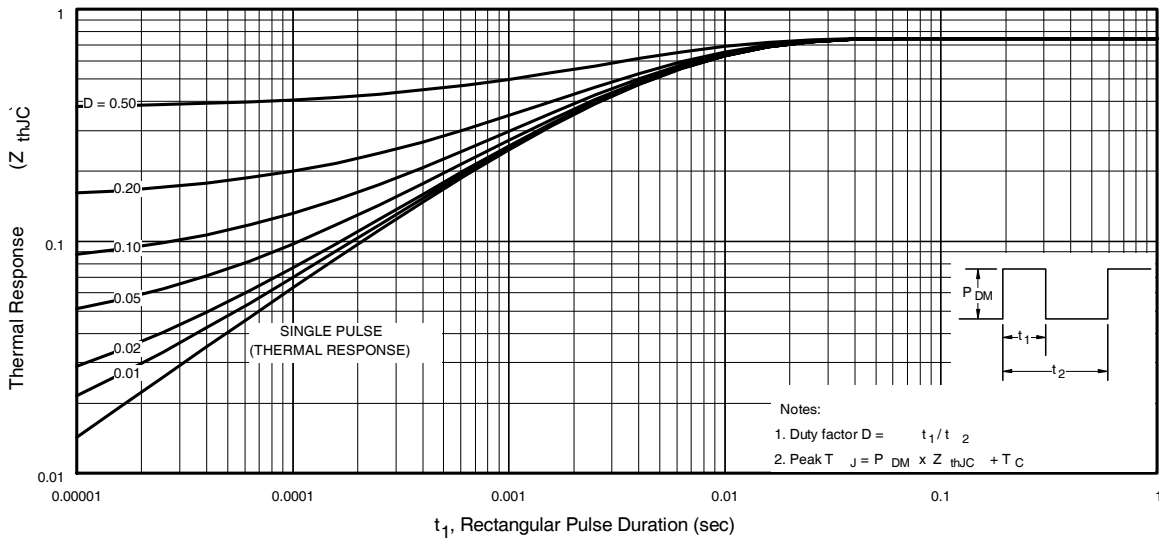


Fig 11. Maximum Effective Transient Thermal Impedance, Junction-to-Case

IRF3710PbF

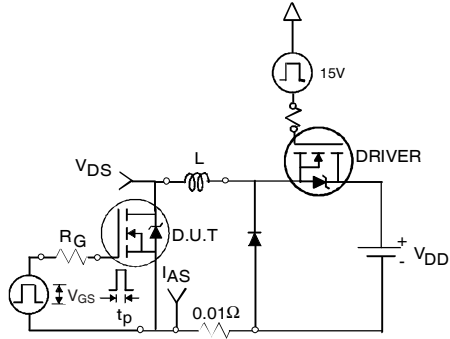


Fig 12a. Unclamped Inductive Test Circuit

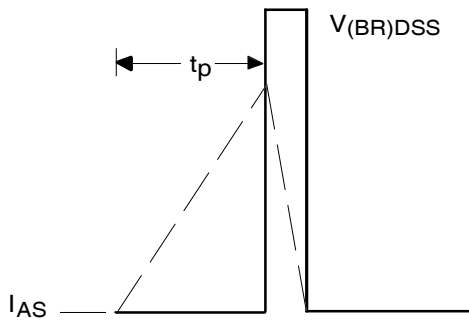


Fig 12b. Unclamped Inductive Waveforms

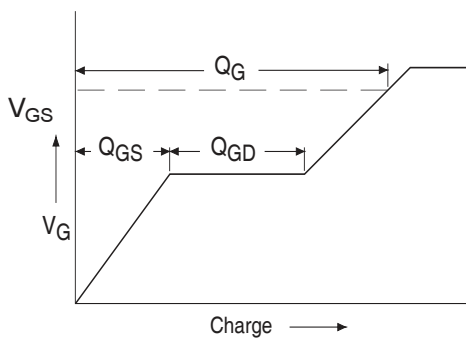


Fig 13a. Basic Gate Charge Waveform

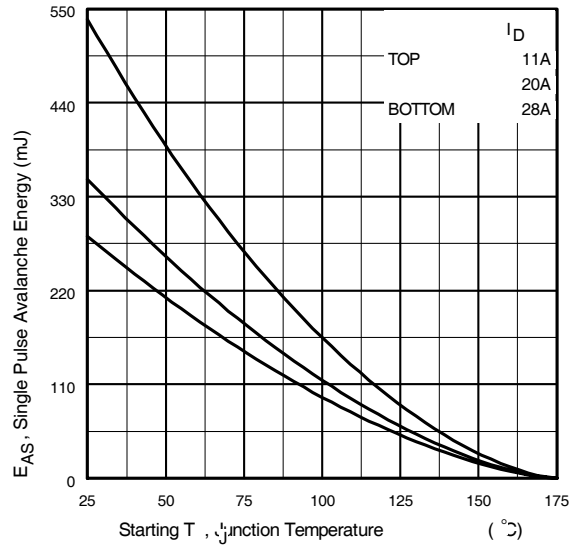


Fig 12c. Maximum Avalanche Energy Vs. Drain Current

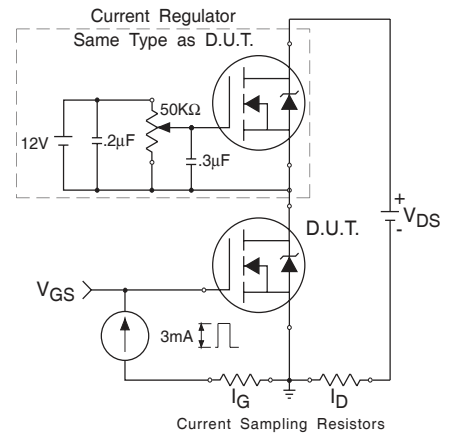
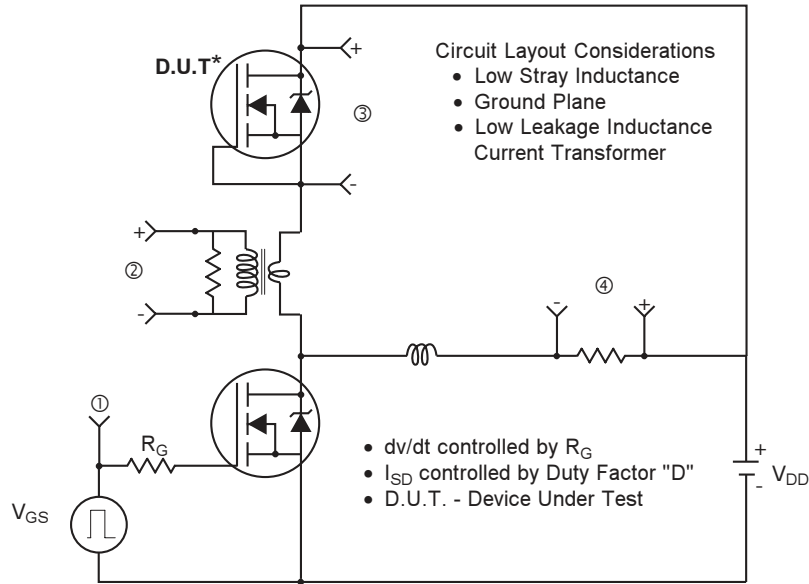
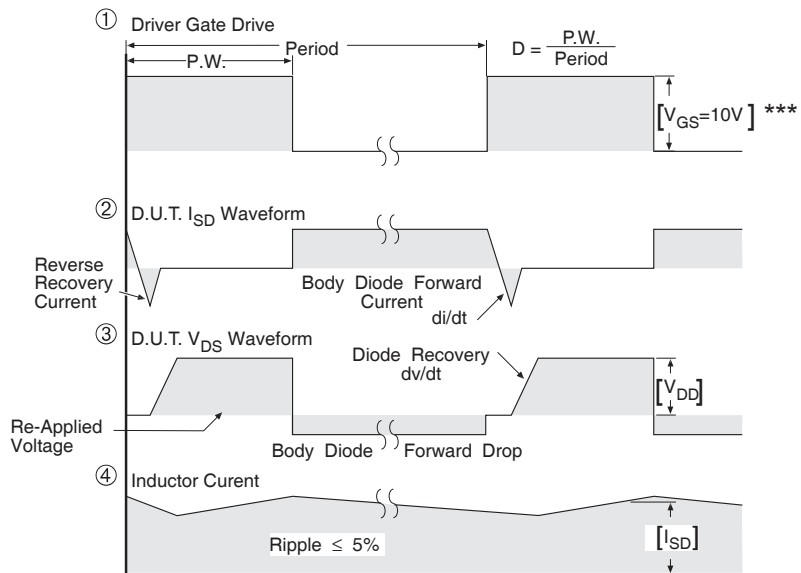


Fig 13b. Gate Charge Test Circuit

Peak Diode Recovery dv/dt Test Circuit



* Reverse Polarity of D.U.T for P-Channel



*** $V_{GS} = 5.0V$ for Logic Level and 3V Drive Devices

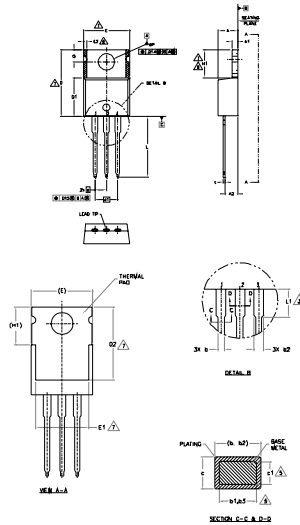
Fig 14. For N-channel HEXFET® power MOSFETs

IRF3710PbF

International
IR Rectifier

TO-220AB Package Outline

Dimensions are shown in millimeters (inches)



- NOTES:
1. DIMENSIONS AND TOLERANCES ARE FOR ASSEMBLY TO IRF 1000
 2. DIMENSIONS ARE SHOWN IN INCHES (MILLIMETERS)
 3. LEAD DIMENSION SHOWN UNLESS OTHERWISE NOTED
 4. DIMENSIONS D, D1, E, E1 DO NOT INCLUDE MOLD FLASH, MOLD FLASH SHALL NOT FACED 90° BECAUSE THESE DIMENSIONS ARE MEASURED AT THE OUTERMOST EXTREMES OF THE PLASTIC BODY
 5. DIMENSION H IS ONLY TO BASE METAL ONLY
 6. CONTROLLING DIMENSION - INCHES
 7. THERMAL PAD CONTROL OPTION (WHEN DIMENSIONS C, D, D1 & E1)
 8. DIMENSION I2 IS IN CONTACT WITH MOUNTING SURFACE. NO SOLDER BRIDGES ARE ALLOWED
 9. DIMENSIONS C, D, D1, D2, E, E1, E2, I1, I2, I3, I4, I5, I6, I7, I8, I9, I10, I11, I12, I13, I14, I15, I16, I17, I18, I19, I20, I21, I22, I23, I24, I25, I26, I27, I28, I29, I30, I31, I32, I33, I34, I35, I36, I37, I38, I39, I40, I41, I42, I43, I44, I45, I46, I47, I48, I49, I50, I51, I52, I53, I54, I55, I56, I57, I58, I59, I60, I61, I62, I63, I64, I65, I66, I67, I68, I69, I70, I71, I72, I73, I74, I75, I76, I77, I78, I79, I80, I81, I82, I83, I84, I85, I86, I87, I88, I89, I90, I91, I92, I93, I94, I95, I96, I97, I98, I99, I100, I101, I102, I103, I104, I105, I106, I107, I108, I109, I110, I111, I112, I113, I114, I115, I116, I117, I118, I119, I120, I121, I122, I123, I124, I125, I126, I127, I128, I129, I130, I131, I132, I133, I134, I135, I136, I137, I138, I139, I140, I141, I142, I143, I144, I145, I146, I147, I148, I149, I150, I151, I152, I153, I154, I155, I156, I157, I158, I159, I160, I161, I162, I163, I164, I165, I166, I167, I168, I169, I170, I171, I172, I173, I174, I175, I176, I177, I178, I179, I180, I181, I182, I183, I184, I185, I186, I187, I188, I189, I190, I191, I192, I193, I194, I195, I196, I197, I198, I199, I200, I201, I202, I203, I204, I205, I206, I207, I208, I209, I210, I211, I212, I213, I214, I215, I216, I217, I218, I219, I220, I221, I222, I223, I224, I225, I226, I227, I228, I229, I230, I231, I232, I233, I234, I235, I236, I237, I238, I239, I240, I241, I242, I243, I244, I245, I246, I247, I248, I249, I250, I251, I252, I253, I254, I255, I256, I257, I258, I259, I260, I261, I262, I263, I264, I265, I266, I267, I268, I269, I270, I271, I272, I273, I274, I275, I276, I277, I278, I279, I280, I281, I282, I283, I284, I285, I286, I287, I288, I289, I290, I291, I292, I293, I294, I295, I296, I297, I298, I299, I300, I301, I302, I303, I304, I305, I306, I307, I308, I309, I310, I311, I312, I313, I314, I315, I316, I317, I318, I319, I320, I321, I322, I323, I324, I325, I326, I327, I328, I329, I330, I331, I332, I333, I334, I335, I336, I337, I338, I339, I340, I341, I342, I343, I344, I345, I346, I347, I348, I349, I350, I351, I352, I353, I354, I355, I356, I357, I358, I359, I360, I361, I362, I363, I364, I365, I366, I367, I368, I369, I370, I371, I372, I373, I374, I375, I376, I377, I378, I379, I380, I381, I382, I383, I384, I385, I386, I387, I388, I389, I390, I391, I392, I393, I394, I395, I396, I397, I398, I399, I400, I401, I402, I403, I404, I405, I406, I407, I408, I409, I410, I411, I412, I413, I414, I415, I416, I417, I418, I419, I420, I421, I422, I423, I424, I425, I426, I427, I428, I429, I430, I431, I432, I433, I434, I435, I436, I437, I438, I439, I440, I441, I442, I443, I444, I445, I446, I447, I448, I449, I450, I451, I452, I453, I454, I455, I456, I457, I458, I459, I460, I461, I462, I463, I464, I465, I466, I467, I468, I469, I470, I471, I472, I473, I474, I475, I476, I477, I478, I479, I480, I481, I482, I483, I484, I485, I486, I487, I488, I489, I490, I491, I492, I493, I494, I495, I496, I497, I498, I499, I500, I501, I502, I503, I504, I505, I506, I507, I508, I509, I510, I511, I512, I513, I514, I515, I516, I517, I518, I519, I520, I521, I522, I523, I524, I525, I526, I527, I528, I529, I530, I531, I532, I533, I534, I535, I536, I537, I538, I539, I540, I541, I542, I543, I544, I545, I546, I547, I548, I549, I550, I551, I552, I553, I554, I555, I556, I557, I558, I559, I560, I561, I562, I563, I564, I565, I566, I567, I568, I569, I570, I571, I572, I573, I574, I575, I576, I577, I578, I579, I580, I581, I582, I583, I584, I585, I586, I587, I588, I589, I590, I591, I592, I593, I594, I595, I596, I597, I598, I599, I600, I601, I602, I603, I604, I605, I606, I607, I608, I609, I610, I611, I612, I613, I614, I615, I616, I617, I618, I619, I620, I621, I622, I623, I624, I625, I626, I627, I628, I629, I630, I631, I632, I633, I634, I635, I636, I637, I638, I639, I640, I641, I642, I643, I644, I645, I646, I647, I648, I649, I650, I651, I652, I653, I654, I655, I656, I657, I658, I659, I660, I661, I662, I663, I664, I665, I666, I667, I668, I669, I670, I671, I672, I673, I674, I675, I676, I677, I678, I679, I680, I681, I682, I683, I684, I685, I686, I687, I688, I689, I690, I691, I692, I693, I694, I695, I696, I697, I698, I699, I700, I701, I702, I703, I704, I705, I706, I707, I708, I709, I710, I711, I712, I713, I714, I715, I716, I717, I718, I719, I720, I721, I722, I723, I724, I725, I726, I727, I728, I729, I730, I731, I732, I733, I734, I735, I736, I737, I738, I739, I740, I741, I742, I743, I744, I745, I746, I747, I748, I749, I750, I751, I752, I753, I754, I755, I756, I757, I758, I759, I760, I761, I762, I763, I764, I765, I766, I767, I768, I769, I770, I771, I772, I773, I774, I775, I776, I777, I778, I779, I780, I781, I782, I783, I784, I785, I786, I787, I788, I789, I790, I791, I792, I793, I794, I795, I796, I797, I798, I799, I800, I801, I802, I803, I804, I805, I806, I807, I808, I809, I810, I811, I812, I813, I814, I815, I816, I817, I818, I819, I820, I821, I822, I823, I824, I825, I826, I827, I828, I829, I830, I831, I832, I833, I834, I835, I836, I837, I838, I839, I840, I841, I842, I843, I844, I845, I846, I847, I848, I849, I850, I851, I852, I853, I854, I855, I856, I857, I858, I859, I860, I861, I862, I863, I864, I865, I866, I867, I868, I869, I870, I871, I872, I873, I874, I875, I876, I877, I878, I879, I880, I881, I882, I883, I884, I885, I886, I887, I888, I889, I890, I891, I892, I893, I894, I895, I896, I897, I898, I899, I900, I901, I902, I903, I904, I905, I906, I907, I908, I909, I910, I911, I912, I913, I914, I915, I916, I917, I918, I919, I920, I921, I922, I923, I924, I925, I926, I927, I928, I929, I930, I931, I932, I933, I934, I935, I936, I937, I938, I939, I940, I941, I942, I943, I944, I945, I946, I947, I948, I949, I950, I951, I952, I953, I954, I955, I956, I957, I958, I959, I960, I961, I962, I963, I964, I965, I966, I967, I968, I969, I970, I971, I972, I973, I974, I975, I976, I977, I978, I979, I980, I981, I982, I983, I984, I985, I986, I987, I988, I989, I990, I991, I992, I993, I994, I995, I996, I997, I998, I999, I1000, I1001, I1002, I1003, I1004, I1005, I1006, I1007, I1008, I1009, I1010, I1011, I1012, I1013, I1014, I1015, I1016, I1017, I1018, I1019, I1020, I1021, I1022, I1023, I1024, I1025, I1026, I1027, I1028, I1029, I1030, I1031, I1032, I1033, I1034, I1035, I1036, I1037, I1038, I1039, I1040, I1041, I1042, I1043, I1044, I1045, I1046, I1047, I1048, I1049, I1050, I1051, I1052, I1053, I1054, I1055, I1056, I1057, I1058, I1059, I1060, I1061, I1062, I1063, I1064, I1065, I1066, I1067, I1068, I1069, I1070, I1071, I1072, I1073, I1074, I1075, I1076, I1077, I1078, I1079, I1080, I1081, I1082, I1083, I1084, I1085, I1086, I1087, I1088, I1089, I1090, I1091, I1092, I1093, I1094, I1095, I1096, I1097, I1098, I1099, I1100, I1101, I1102, I1103, I1104, I1105, I1106, I1107, I1108, I1109, I1110, I1111, I1112, I1113, I1114, I1115, I1116, I1117, I1118, I1119, I1120, I1121, I1122, I1123, I1124, I1125, I1126, I1127, I1128, I1129, I1130, I1131, I1132, I1133, I1134, I1135, I1136, I1137, I1138, I1139, I1140, I1141, I1142, I1143, I1144, I1145, I1146, I1147, I1148, I1149, I1150, I1151, I1152, I1153, I1154, I1155, I1156, I1157, I1158, I1159, I1160, I1161, I1162, I1163, I1164, I1165, I1166, I1167, I1168, I1169, I1170, I1171, I1172, I1173, I1174, I1175, I1176, I1177, I1178, I1179, I1180, I1181, I1182, I1183, I1184, I1185, I1186, I1187, I1188, I1189, I1190, I1191, I1192, I1193, I1194, I1195, I1196, I1197, I1198, I1199, I1200, I1201, I1202, I1203, I1204, I1205, I1206, I1207, I1208, I1209, I1210, I1211, I1212, I1213, I1214, I1215, I1216, I1217, I1218, I1219, I1220, I1221, I1222, I1223, I1224, I1225, I1226, I1227, I1228, I1229, I1230, I1231, I1232, I1233, I1234, I1235, I1236, I1237, I1238, I1239, I1240, I1241, I1242, I1243, I1244, I1245, I1246, I1247, I1248, I1249, I1250, I1251, I1252, I1253, I1254, I1255, I1256, I1257, I1258, I1259, I1260, I1261, I1262, I1263, I1264, I1265, I1266, I1267, I1268, I1269, I1270, I1271, I1272, I1273, I1274, I1275, I1276, I1277, I1278, I1279, I1280, I1281, I1282, I1283, I1284, I1285, I1286, I1287, I1288, I1289, I1290, I1291, I1292, I1293, I1294, I1295, I1296, I1297, I1298, I1299, I1300, I1301, I1302, I1303, I1304, I1305, I1306, I1307, I1308, I1309, I1310, I1311, I1312, I1313, I1314, I1315, I1316, I1317, I1318, I1319, I1320, I1321, I1322, I1323, I1324, I1325, I1326, I1327, I1328, I1329, I1330, I1331, I1332, I1333, I1334, I1335, I1336, I1337, I1338, I1339, I1340, I1341, I1342, I1343, I1344, I1345, I1346, I1347, I1348, I1349, I1350, I1351, I1352, I1353, I1354, I1355, I1356, I1357, I1358, I1359, I1360, I1361, I1362, I1363, I1364, I1365, I1366, I1367, I1368, I1369, I1370, I1371, I1372, I1373, I1374, I1375, I1376, I1377, I1378, I1379, I1380, I1381, I1382, I1383, I1384, I1385, I1386, I1387, I1388, I1389, I1390, I1391, I1392, I1393, I1394, I1395, I1396, I1397, I1398, I1399, I1400, I1401, I1402, I1403, I1404, I1405, I1406, I1407, I1408, I1409, I1410, I1411, I1412, I1413, I1414, I1415, I1416, I1417, I1418, I1419, I1420, I1421, I1422, I1423, I1424, I1425, I1426, I1427, I1428, I1429, I1430, I1431, I1432, I1433, I1434, I1435, I1436, I1437, I1438, I1439, I1440, I1441, I1442, I1443, I1444, I1445, I1446, I1447, I1448, I1449, I1450, I1451, I1452, I1453, I1454, I1455, I1456, I1457, I1458, I1459, I1460, I1461, I1462, I1463, I1464, I1465, I1466, I1467, I1468, I1469, I1470, I1471, I1472, I1473, I1474, I1475, I1476, I1477, I1478, I1479, I1480, I1481, I1482, I1483, I1484, I1485, I1486, I1487, I1488, I1489, I1490, I1491, I1492, I1493, I1494, I1495, I1496, I1497, I1498, I1499, I1500, I1501, I1502, I1503, I1504, I1505, I1506, I1507, I1508, I1509, I1510, I1511, I1512, I1513, I1514, I1515, I1516, I1517, I1518, I1519, I1520, I1521, I1522, I1523, I1524, I1525, I1526, I1527, I1528, I1529, I1530, I1531, I1532, I1533, I1534, I1535, I1536, I1537, I1538, I1539, I1540, I1541, I1542, I1543, I1544, I1545, I1546, I1547, I1548, I1549, I1550, I1551, I1552, I1553, I1554, I1555, I1556, I1557, I1558, I1559, I1560, I1561, I1562, I1563, I1564, I1565, I1566, I1567, I1568, I1569, I1570, I1571, I1572, I1573, I1574, I1575, I1576, I1577, I1578, I1579, I1580, I1581, I1582, I1583, I1584, I1585, I1586, I1587, I1588, I1589, I1590, I1591, I1592, I1593, I1594, I1595, I1596, I1597, I1598, I1599, I1600, I1601, I1602, I1603, I1604, I1605, I1606, I1607, I1608, I1609, I1610, I1611, I1612, I1613, I1614, I1615, I1616, I1617, I1618, I1619, I1620, I1621, I1622, I1623, I1624, I1625, I1626, I1627, I1628, I1629, I1630, I1631, I1632, I1633, I1634, I1635, I1636, I1637, I1638, I1639, I1640, I1641, I1642, I1643, I1644, I1645, I1646, I1647, I1648, I1649, I1650, I1651, I1652, I1653, I1654, I1655, I1656, I1657, I1658, I1659, I1660, I1661, I1662, I1663, I1664, I1665, I1666, I1667, I1668, I1669, I1670, I1671, I1672, I1673, I1674, I1675, I1676, I1677, I1678, I1679, I1680, I1681, I1682, I1683, I1684, I1685, I1686, I1687, I1688, I1689, I1690, I1691, I1692, I1693, I1694, I1695, I1696, I1697, I1698, I1699, I1700, I1701, I1702, I1703, I1704, I1705, I1706, I1707, I1708, I1709, I1710, I1711, I1712, I1713, I1714, I1715, I1716, I1717, I1718, I1719, I1720, I1721, I1722, I1723, I1724, I1725, I1726, I1727, I1728, I1729, I1730, I1731, I1732, I1733, I1734, I1735, I1736, I1737, I1738, I1739, I1740, I1741, I1742, I1743, I1744, I1745, I1746, I1747, I1748, I1749, I1750, I1751, I1752, I1753, I1754, I1755, I1756, I1757, I1758, I1759, I1760, I1761, I1762, I1763, I1764, I1765, I1766, I1767, I1768, I1769, I1770, I1771, I1772, I1773, I1774, I1775, I1776, I1777, I1778, I1779, I1780, I1781, I1782, I1783, I1784, I1785, I1786, I1787, I1788, I1789, I1790, I1791, I1792, I1793, I1794, I1795, I1796, I1797, I1798, I1799, I1800, I1801, I1802, I1803, I1804, I1805, I1806, I1807, I1808, I1809, I1810, I1811, I1812, I1813, I1814, I1815, I1816, I1817, I1818, I1819, I1820, I1821, I1822, I1823, I1824, I1825, I1826, I1827, I1828, I1829, I1830, I1831, I1832, I1833, I1834, I1835, I1836, I1837, I1838, I1839, I1840, I1841, I1842, I1843, I1844, I1845, I1846, I1847, I1848, I1849, I1850, I1851, I1852, I1853, I1854, I1855, I1856, I1857, I1858, I1859, I1860, I1861, I1862, I1863, I1864, I1865, I1866, I1867, I1868, I1869, I1870, I1871, I1872, I1873, I1874, I1875, I1876, I1877, I1878, I1879, I1880, I1881, I1882, I1883, I1884, I1885, I1886, I1887, I1888, I1889, I1890, I1891, I1892, I1893, I1894, I1895, I1896, I1897, I1898, I1899, I1900, I1901, I1902, I1903, I1904, I1905, I1906, I1907, I1908, I1909, I1910, I1911, I1912, I1913, I1914, I1915, I1916, I1917, I1918, I1919, I1920, I1921, I1922, I1923, I1924, I1925, I1926, I1927, I1928, I1929, I1930, I1931, I1932, I1933, I1934, I1935, I1936, I1937, I1938, I1939, I1940, I1941, I1942, I1943, I1944, I1945, I1946, I1947, I1948, I1949, I1950, I1951, I1952, I1953, I1954, I1955, I1956, I1957, I1958, I1959, I1960, I1961, I1962, I1963, I1964, I1965, I1966, I1967, I1968, I1969, I1970, I1971, I1972, I1973, I1974, I1975, I1976, I1977, I1978, I1979, I1980, I1981, I1982, I1983, I1984, I1985, I1986, I1987, I1988, I1989, I1990, I1991, I1992, I1993, I1994, I1995, I1996, I1997, I1998, I1999, I2000, I2001, I2002, I2003, I2004, I2005, I2006, I2007, I2008, I2009, I2010, I2011, I2012, I2013, I2014, I2015, I2016, I2017, I2018, I2019, I2020, I2021, I2022, I2023, I2024, I2025, I2026, I2027, I2028, I2029, I2030, I2031, I2032, I2033, I2034, I2035, I2036, I2037, I2038, I2039, I2040, I2041, I2042, I2043, I2044, I2045, I2046, I2047, I2048, I2049, I2050, I2051, I2052, I2053, I2054, I2055, I2056, I2057, I2058, I2059, I2060, I2061, I2062, I2063, I2064, I2065, I2066, I2067, I2068, I2069, I2070, I2071, I2072, I2073, I2074, I2075, I2076, I2077, I2078, I2079, I2080, I2081, I2082, I2083, I2084, I2085, I2086, I2087, I2088, I2089, I2090, I2091, I2092, I2093, I2094, I2095, I2096, I2097, I2098, I2099, I2100, I2101, I2102, I2103, I2104, I2105, I2106, I2107, I2108, I2109, I2110, I2111, I2112, I2113, I2114, I2115, I2116, I2117, I2118, I2119, I2120, I2121, I2122, I2123, I2124, I2125, I2126, I2127, I2128, I2129, I2130, I2131, I2132, I2133, I2134, I2135, I2136, I2137, I2138, I2139, I2140, I2141, I2142, I2143, I2144, I2145, I2146, I2147, I2148, I2149, I2150, I2151, I2152, I2153,

IMPORTANT NOTICE

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffheitsgarantie").

With respect to any examples, hints or any typical values stated herein and/or any information regarding the application of the product, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation warranties of non-infringement of intellectual property rights of any third party.

In addition, any information given in this document is subject to customer's compliance with its obligations stated in this document and any applicable legal requirements, norms and standards concerning customer's products and any use of the product of Infineon Technologies in customer's applications.

The data contained in this document is exclusively intended for technically trained staff. It is the responsibility of customer's technical departments to evaluate the suitability of the product for the intended application and the completeness of the product information given in this document with respect to such application.

For further information on the product, technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies office (www.infineon.com).

WARNINGS

Due to technical requirements products may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by Infineon Technologies in a written document signed by authorized representatives of Infineon Technologies, Infineon Technologies' products may not be used in any applications where a failure of the product or any consequences of the use thereof can reasonably be expected to result in personal injury.