

International

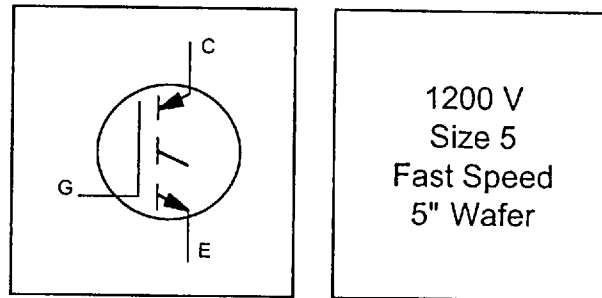
Rectifier

PD-9.1420

TARGET

IRGCH50ME

IRGCH50ME IGBT Die in Wafer Form



Electrical Characteristics (Wafer Form)

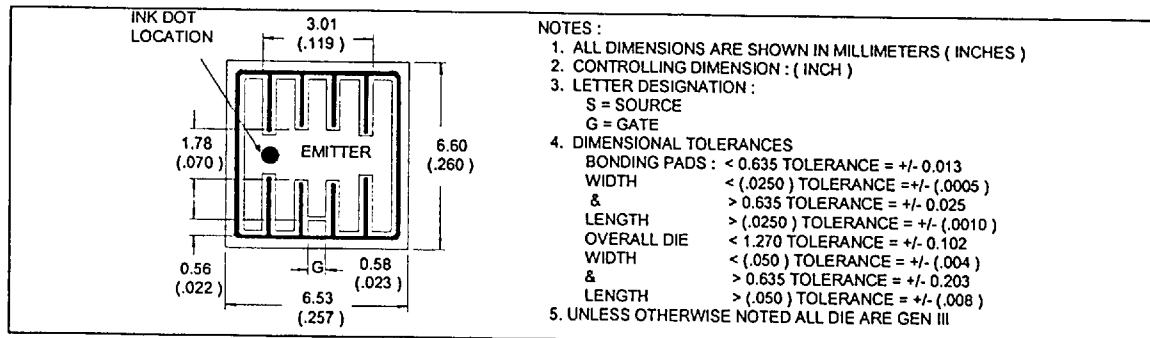
Parameter	Description	Guaranteed (Min/Max)	Test Conditions
$V_{CE(on)}$	Collector-to-Emitter Saturation Voltage	3.6V Max.	$I_C = 20A$, $T_J = 25^\circ C$, $V_{GE} = 15V$
$V_{(BR)CES}$	Collector-to-Emitter Breakdown Voltage	1200V Min.	$T_J = 25^\circ C$, $I_{CES} = 250\mu A$, $V_{GE} = 0V$
$V_{GE(th)}$	Gate Threshold Voltage	3.0V Min., 5.5V Max.	$V_{GE} = V_{CE}$, $T_J = 25^\circ C$, $I_C = 250\mu A$
I_{CES}	Zero Gate Voltage Collector Current	250 μA Max.	$T_J = 25^\circ C$, $V_{CE} = 1200V$
I_{GES}	Gate-to-Emitter Leakage Current	± 500 nA Max.	$T_J = 25^\circ C$, $V_{GE} = \pm 20V$

Mechanical Data

Normal Backmetal Composition, Thickness:	Cr-Ni-Ag (1kA-4kA-6kA)
Normal Front Metal Composition, Thickness:	99% Al, 1% Si (3 microns)
Dimensions:	0.257" x 0.260"
Wafer Diameter:	125mm, with std. < 100 > flat
Wafer thickness:	.015" $\pm$.003"
Relevant Die Mechanical Dwg. Number	01-5104
Minimum Street Width	100 Microns
Reject Ink Dot Size	0.25mm Diameter Minimum
Ink Dot Location	See Die Outline drawing below
Recommended Storage Environment:	Store in original container, in dessicated nitrogen, with no contamination

Reference Standard IR packaged part (for design) : IRGPH50M

Die Outline

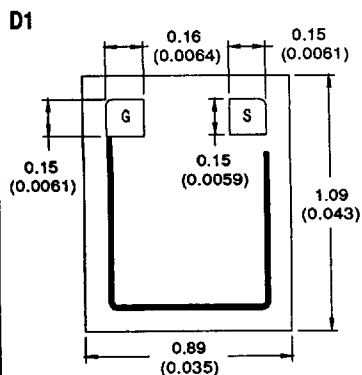


HEXFET Die Outlines

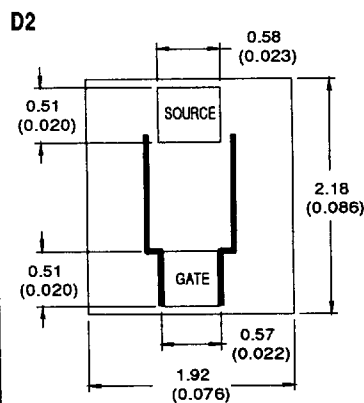
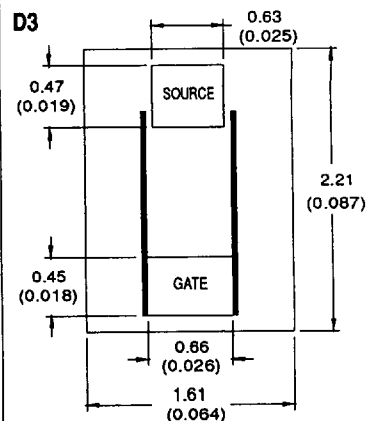
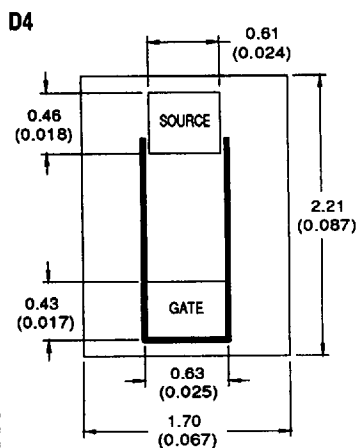
Appendix F

INTERNATIONAL RECTIFIER

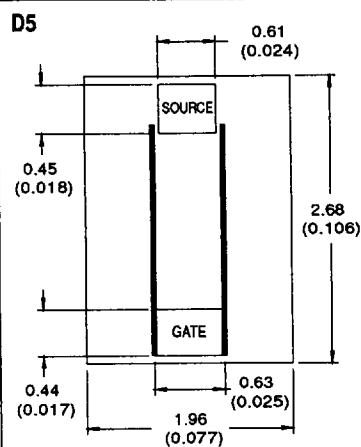
APPENDICES



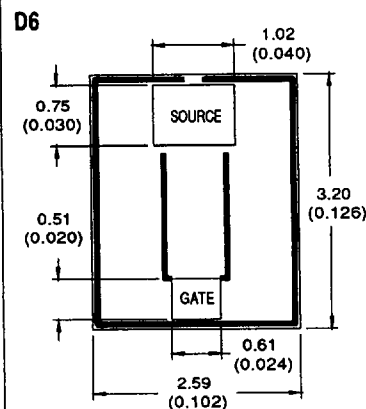
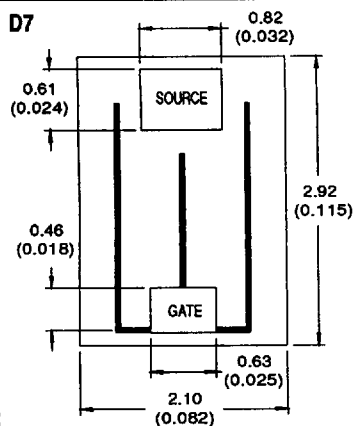
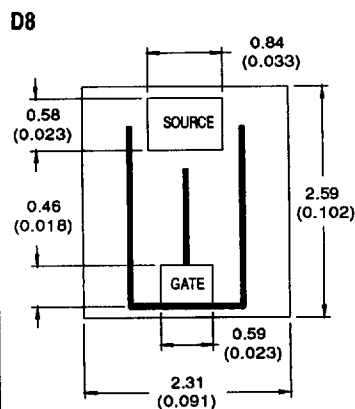
HEX-Z: 100V, N-CHANNEL


HEX-1: 60V, N-CHANNEL
LOGIC LEVEL: HEX-1: 60V, N-CHANNEL

HEX-1: 100V, N-CHANNEL
LOGIC LEVEL: HEX-1: 100V, N-CHANNEL


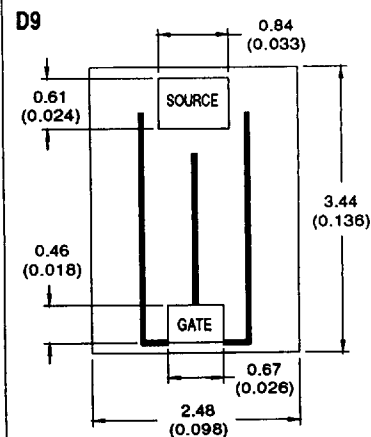
HEX-1: 200V & 250V, N-CHANNEL



HEX-1: 400V, N-CHANNEL


HEX-2: 60V, N-CHANNEL
LOGIC LEVEL: HEX-2: 60V, N-CHANNEL

HEX-2: 100V, N-CHANNEL
LOGIC LEVEL HEX-2: 100V, N-CHANNEL


HEX-2: 200V & 250V, N-CHANNEL



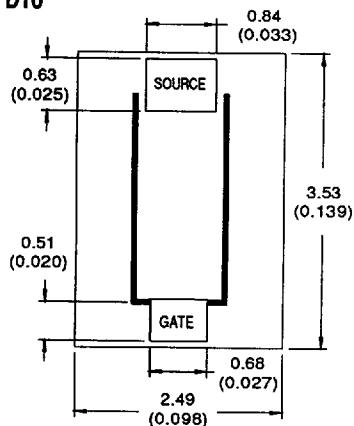
HEX-2: 400V & 500V N-CHANNEL

Appendix F

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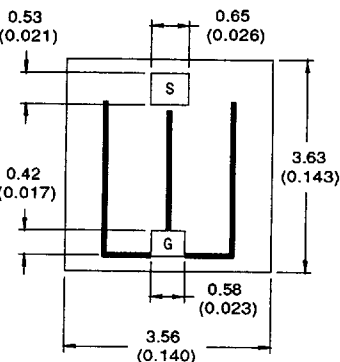
HEXFET Die Outlines

D10



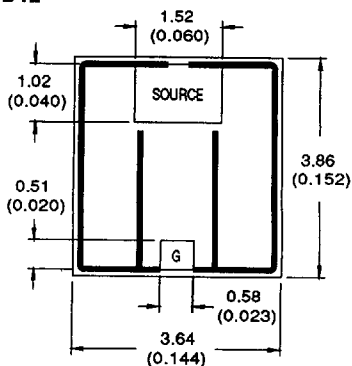
HEX-2 600V, N-CHANNEL

D11



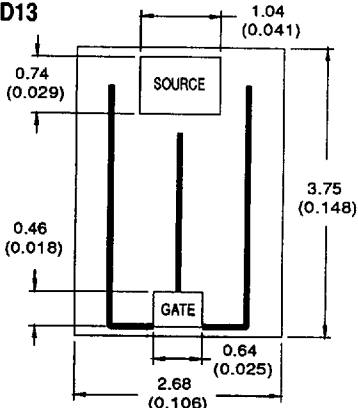
HEX-2: 800V, 900V & 1000V, N-CHANNEL

D12



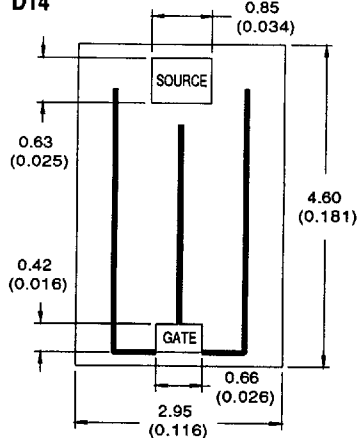
HEX-3: 60V, N-CHANNEL
LOGIC LEVEL: HEX-3: 60V, N-CHANNEL

D13



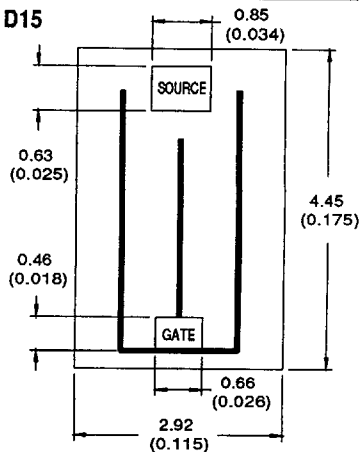
HEX-3: 100V, N-CHANNEL
LOGIC LEVEL: HEX-3: 100V, N-CHANNEL

D14



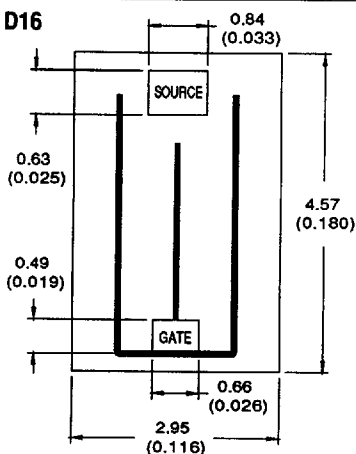
HEX-3: 200V & 250V, N-CHANNEL

D15



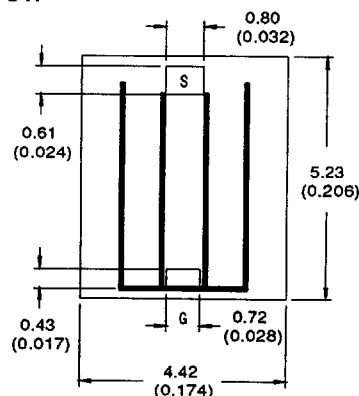
HEX-3: 400V & 500V, N-CHANNEL

D16



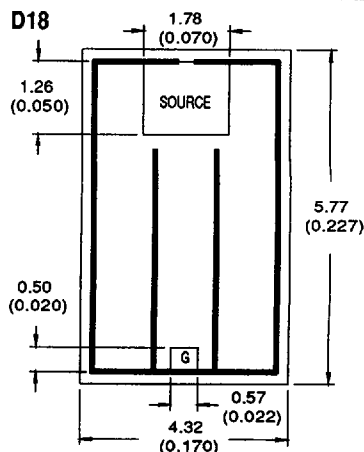
HEX-3: 600V, N-CHANNEL

D17



HEX-3: 800V, 900V & 1000V, N-CHANNEL

D18



LOGIC LEVEL: HEX-4: 60V, N-CHANNEL

HEXFET Die Outlines

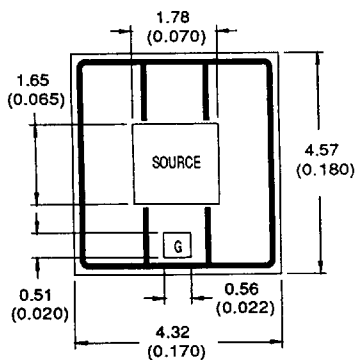
Appendix F

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INTERNATIONAL RECTIFIER

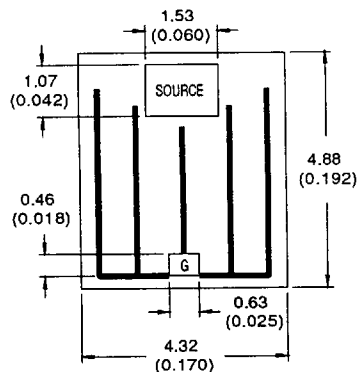
APPENDICES

D19



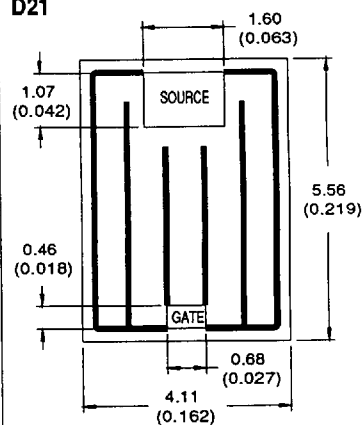
HEX-4: 50V & 60V, N-CHANNEL

D20



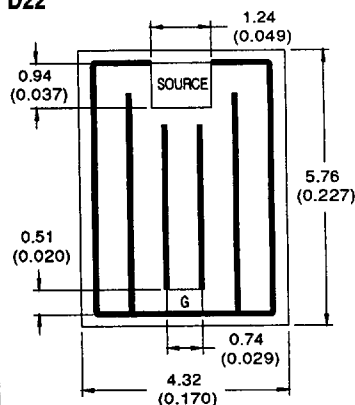
HEX-4: 100V, N-CHANNEL
LOGIC LEVEL: HEX-4: 100V, N-CHANNEL

D21



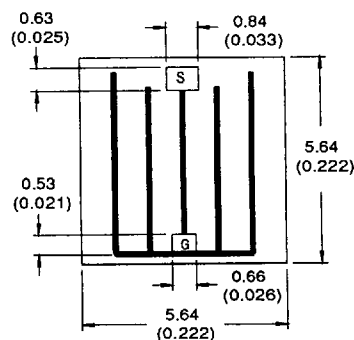
HEX-4: 200V & 250V, N-CHANNEL

D22



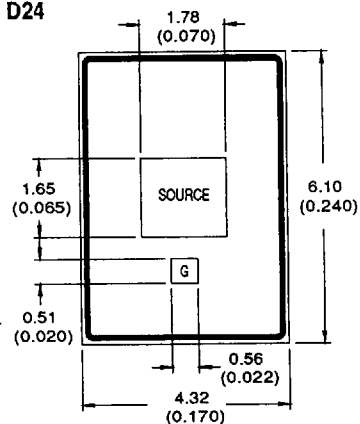
HEX-4: 400V, 500V & 600V, N-CHANNEL

D23



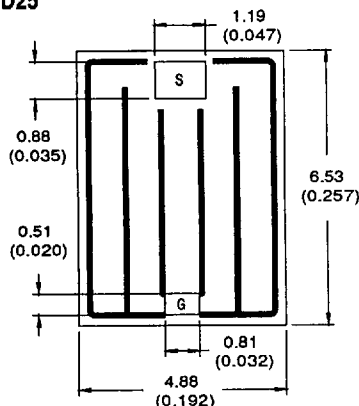
HEX-4: 800V, 900V & 1000V, N-CHANNEL

D24



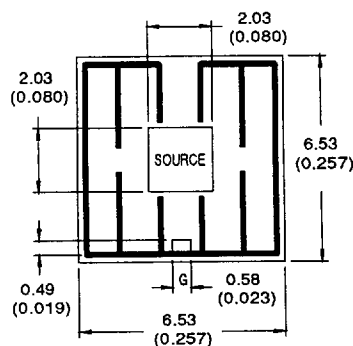
HEX-4.1: 60V, N-CHANNEL

D25



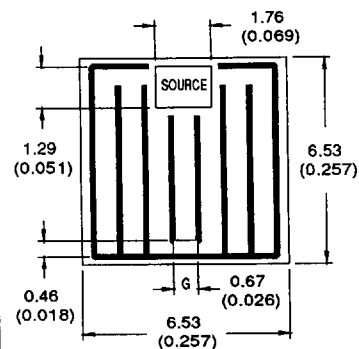
HEX-4.5: 500V, N-CHANNEL

D26



HEX-5: 60V, N-CHANNEL

D27



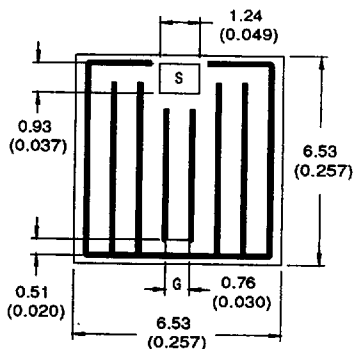
HEX-5: 100V, 200V, 250V, 400V & 500V N-CHANNEL

Appendix F

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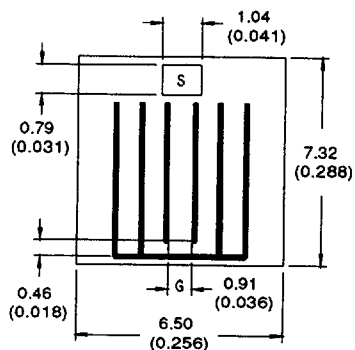
HEXFET Die Outlines

D28



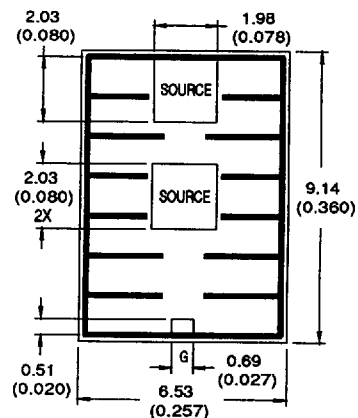
HEX-5: 600V, N-CHANNEL

D29



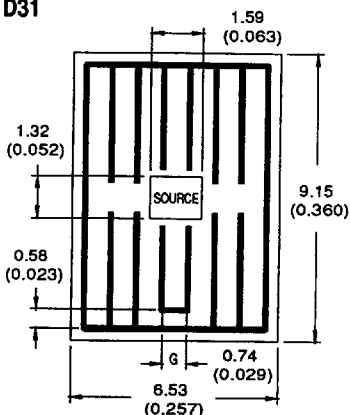
HEX-5: 800V, 900V & 1000V, N-CHANNEL

D30



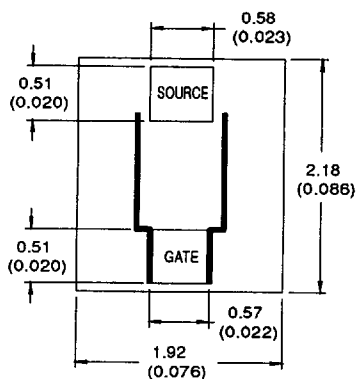
HEX-6: 60V, N-CHANNEL

D31



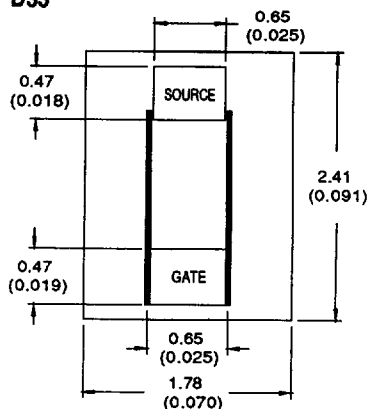
HEX-6: 400V & 500V, N-CHANNEL

D32



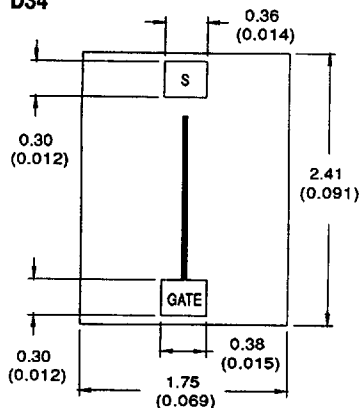
HEX-1: 60V, P-CHANNEL

D33



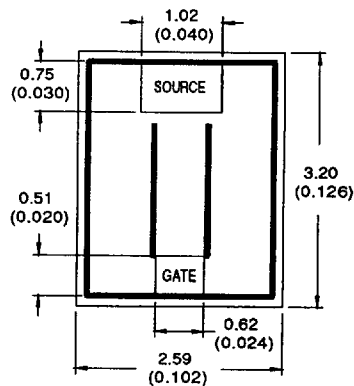
HEX-1: 100V, P-CHANNEL

D34



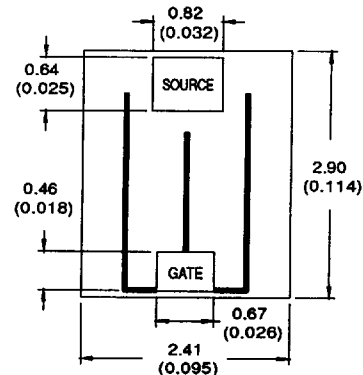
HEX-1: 200V, P-CHANNEL GEN 1

D35



HEX-2: 60V, P-CHANNEL

D36



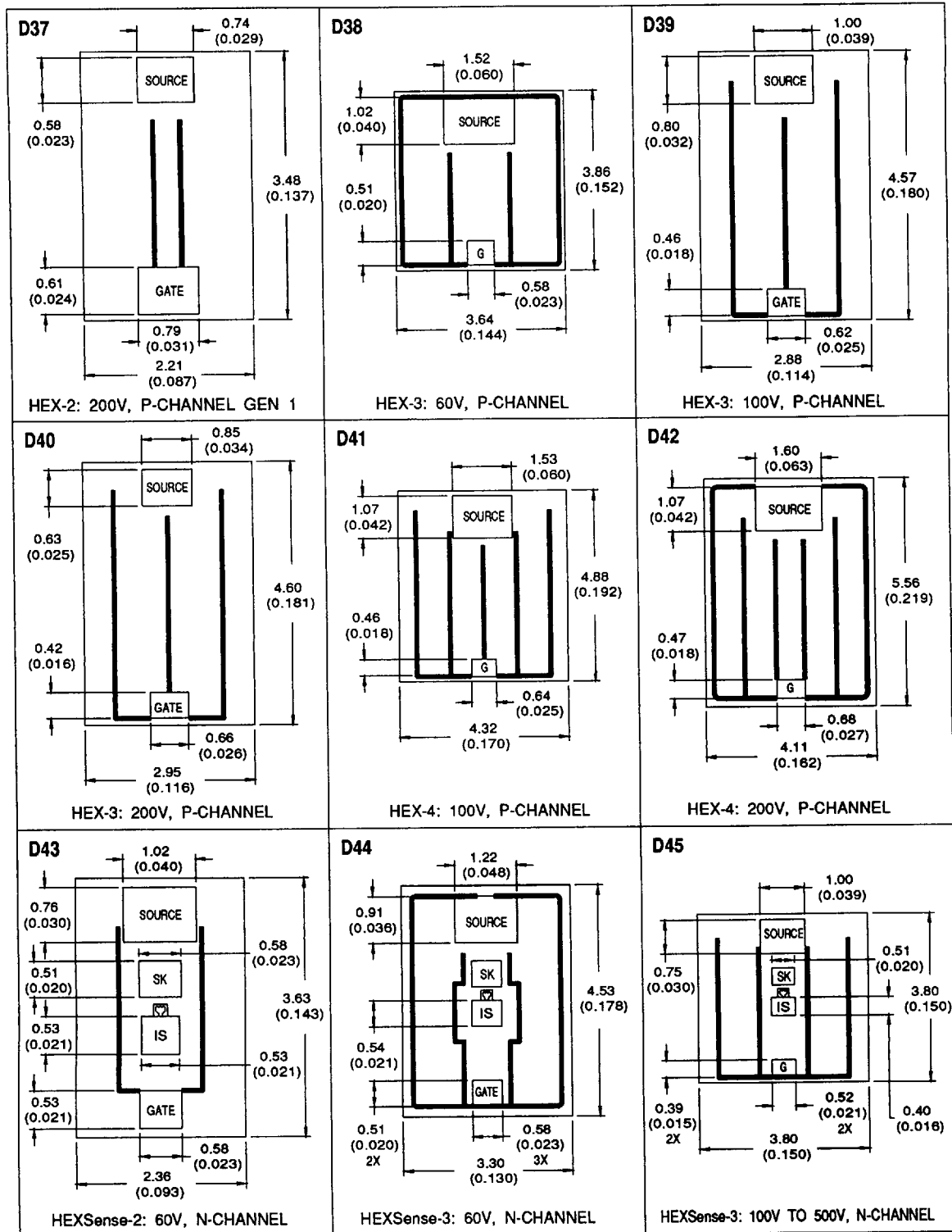
HEX-2: 100V, P-CHANNEL

HEXFET Die Outlines

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INTERNATIONAL RECTIFIER

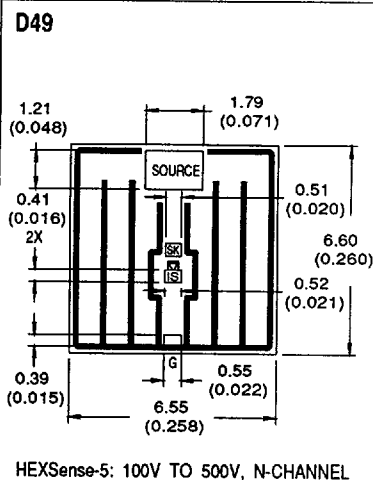
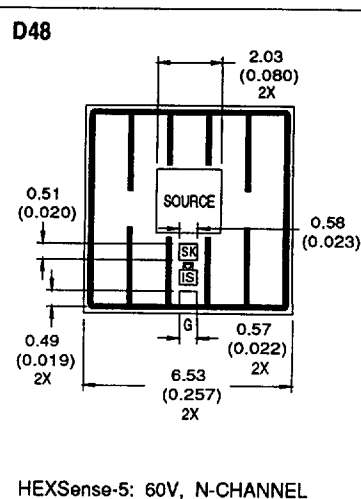
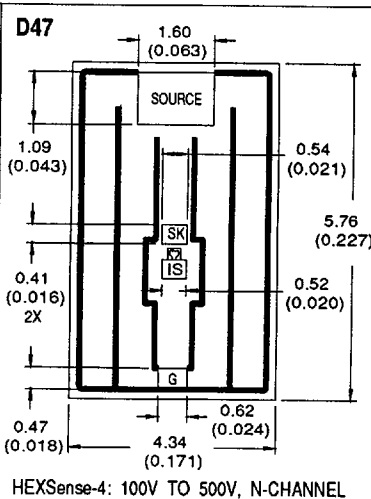
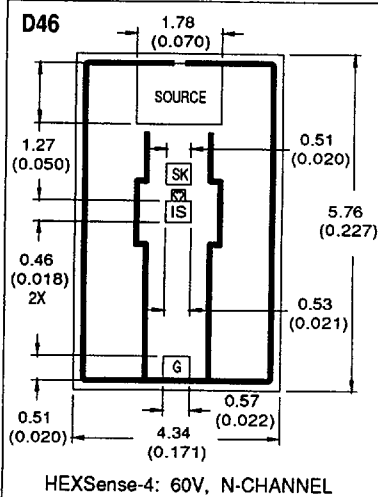
APPENDICES



Appendix F

4855452 0016050 T36 INR

HEXFET Die Outlines



D50

D51

INTERNATIONAL RECTIFIER 6SE D

D52

- NOTES:
- 1 ALL DIMENSIONS ARE SHOWN IN MILLIMETERS (INCHES)
 - 2 CONTROLLING DIMENSION: (INCH).
 3. LETTER DESIGNATION:
S = SOURCE SK = SOURCE KELVIN
G = GATE IS = CURRENT SENSE
 4. DIMENSIONAL TOLERANCES:
BONDING PADS: < 0.635 TOLERANCE = +/- 0.013
WIDTH < (0.0250) TOLERANCE = +/- (0.0005)
& > 0.635 TOLERANCE = +/- 0.025
LENGTH > (0.0250) TOLERANCE = +/- (0.0010)
OVERALL DIE: < 1.270 TOLERANCE = +/- 0.102
WIDTH < (0.050) TOLERANCE = +/- (0.004)
& > 0.635 TOLERANCE = +/- 0.203
> (0.050) TOLERANCE = +/- (0.008)
 5. UNLESS OTHERWISE NOTED ALL DIE ARE GEN III