





## HERMETIC POWER MOSFETS

## N-CHANNEL. (TO-254, TO-257)

TYPE NUMBER	DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{(BR)DSS}$	CONTINUOUS DRAIN CURRENT $I_D$		MAXIMUM POWER DISSIPATION $P_D$	STATIC DRAIN TO SOURCE ON RESISTANCE $R_{DS(on)}$		MAXIMUM THERMAL RESISTANCE $R_{\theta JC}$	SIMILAR PART TYPE	PKG. STYLE	
		Amps			Watts	Ohms				Amps
		25°C	100°C		25°C					
SHD2261	60	20	20	60	.035	20	2.1	IRFY044		
SHD2262	100	18	12	60	.092	12	2.1	IRFY140		
SHD2263	200	12	7.8	60	.19	7.8	2.1	IRFY240		
SHD2264	400	6.9	4.4	60	.55	4.4	2.1	IRFY340		
SHD2265	500	5.5	3.5	60	.85	3.5	2.1	IRFY440		
SHD2266	800	4.8	3.0	60	2.0	3.0	2.1	IRFYE40		
SHD2267	900	4.3	2.7	60	2.5	2.7	2.1	IRFYF40		
SHD2268	1000	3.9	2.5	60	3.5	2.5	2.1	IRFYG40		
2N7218	100	28	20	125	.077	20	1.0	IRFM140		
2N7224	100	34	21	150	.07	21	0.83	IRFM150		
SHD2254	100	75	50	200	.025	37.5	0.7	IXTM75N10		
<b>SHD2254F</b>	<b>100</b>	<b>75</b>	<b>50</b>	<b>200</b>	<b>.025</b>	<b>37.5</b>	<b>0.7</b>	<b>IXFM75N10</b>		
2N7219	200	18	11	125	.18	11	1.0	IRFM240		
<b>2N7225</b>	<b>200</b>	<b>27.4</b>	<b>17</b>	<b>150</b>	<b>.100</b>	<b>17</b>	<b>0.83</b>	<b>IRFM250</b>		
SHD2251	200	50	30	200	.05	25	0.7	IXTM50N20		
<b>SHD2251F</b>	<b>200</b>	<b>50</b>	<b>30</b>	<b>200</b>	<b>.05</b>	<b>25</b>	<b>0.7</b>	<b>IXFM50N20</b>		
2N7221	400	10	6.0	125	.55	6.0	1.0	IRFM340		
2N7227	400	14	9.0	150	.315	9.0	0.83	IRFM350		
2N7222	500	8.0	5.0	125	.85	5.0	1.0	IRFM440		
<b>2N7228</b>	<b>500</b>	<b>12</b>	<b>8.0</b>	<b>150</b>	<b>.415</b>	<b>8.0</b>	<b>0.83</b>	<b>IRFM450</b>		
SHD2253	500	24	18	200	.23	12	0.7	IXTM24N50		
<b>SHD2253F</b>	<b>500</b>	<b>24</b>	<b>18</b>	<b>200</b>	<b>.23</b>	<b>12</b>	<b>0.7</b>	<b>IXFM24N50</b>		
SHD2255	600	20	12	200	.35	10	0.7	IXTM20N60		
<b>SHD2255F</b>	<b>600</b>	<b>20</b>	<b>12</b>	<b>200</b>	<b>.35</b>	<b>10</b>	<b>0.7</b>	<b>IXFM20N60</b>		
SHD2256	800	13	8.0	200	.80	6.5	0.7	IXTM13N80		
SHD2256F	800	13	8.0	200	.80	6.5	0.7	IXFM13N80		
SHD2257	900	12	7.2	200	.90	6.0	0.7	IXTM12N90		
SHD2257F	900	12	7.2	200	.90	6.0	0.7	IXFM12N90		
SHD2258	1000	12	7.2	200	1.05	6.0	0.7	IXTM12N100		
<b>SHD2258F</b>	<b>1000</b>	<b>12</b>	<b>7.2</b>	<b>200</b>	<b>1.05</b>	<b>6.0</b>	<b>0.7</b>	<b>IXFM12N100</b>		

Note: Suffix F in the part number, indicates that the device includes a fast intrinsic diode.

## P-CHANNEL. (TO-254, TO-257)





SHD2269	-100	-13	-8.2	60	.24	-13	2.1	IRFY9140	
SHD22610	-200	-7.7	-4.9	60	.58	-7.7	2.1	IRFY9240	
2N7236	-100	-18	-11	125	.20	-11	1.0	IRFM9140	
2N7237	-200	-11	-7.0	125	.51	-7.0	1.0	IRFM9240	

Note: Ceramic seals and GlidCop® leads available. See page 101 for ordering instructions.

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## HERMETIC POWER MOSFETs (Continued)

## N-CHANNEL, SURFACE MOUNT






TYPE NUMBER	DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{(BR)DSS}$	CONTINUOUS DRAIN CURRENT $I_D$		MAXIMUM POWER DISSIPATION $P_D$	STATIC DRAIN TO SOURCE ON RESISTANCE $R_{DS(on)}$		MAXIMUM THERMAL RESISTANCE $R_{\theta JC}$	SIMILAR PART TYPE	PKG. STYLE	
		Amps			Watts	Ohms				Amps
		25°C	100°C							
SHD2181	60	45	31	200	.02	31	0.6	IRFM054		
SHD2182	100	38	24	200	.055	24	0.6	IRFM150		
<b>SHD2183</b>	<b>200</b>	<b>30</b>	<b>19</b>	<b>200</b>	<b>.85</b>	<b>19</b>	<b>0.6</b>	<b>IRFM250</b>		
SHD2184	400	14	9.0	200	.30	9.0	0.6	IRFM350		
<b>SHD2185</b>	<b>500</b>	<b>12</b>	<b>7.75</b>	<b>200</b>	<b>.40</b>	<b>7.75</b>	<b>0.6</b>	<b>IRFM450</b>		
SHD2186	800	7.1	4.5	200	1.2	4.5	0.6	IRFAE50		
SHD2187	900	6.2	4.0	200	1.6	4.0	0.6	IRFAF50		
SHD2188	1000	5.6	3.5	200	2.0	3.5	0.6	IRFAG50		
										SHD-5
SHD2181A	60	45	31	200	.02	21	0.6	IRFM054		
SHD2182A	100	38	24	200	.055	24	0.6	IRFM150		
<b>SHD2183A</b>	<b>200</b>	<b>30</b>	<b>19</b>	<b>200</b>	<b>.085</b>	<b>19</b>	<b>0.6</b>	<b>IRFM250</b>		
SHD2184A	400	14	9.0	200	.30	9.0	0.6	IRFM350		
<b>SHD2185A</b>	<b>500</b>	<b>12</b>	<b>7.75</b>	<b>200</b>	<b>.40</b>	<b>7.75</b>	<b>0.6</b>	<b>IRFM450</b>		
SHD2186A	800	7.1	4.5	200	1.2	4.5	0.6	IRFAE50		
SHD2187A	900	6.2	4.0	200	1.6	4.0	0.6	IRFAF50		
SHD2188A	1000	5.6	3.5	200	2.0	3.5	0.6	IRFAG50		
										SHD-5A
SHD2181B	60	45	31	200	.02	21	0.6	IRFM054		
SHD2182B	100	38	24	200	.055	24	0.6	IRFM150		
<b>SHD2183B</b>	<b>200</b>	<b>30</b>	<b>19</b>	<b>200</b>	<b>.085</b>	<b>19</b>	<b>0.6</b>	<b>IRFM250</b>		
SHD2184B	400	14	9.0	200	.30	9.0	0.6	IRFM350		
<b>SHD2185B</b>	<b>500</b>	<b>12</b>	<b>7.75</b>	<b>200</b>	<b>.40</b>	<b>7.75</b>	<b>0.6</b>	<b>IRFM450</b>		
SHD2186B	800	7.1	4.5	200	1.2	4.5	0.6	IRFAE50		
SHD2187B	900	6.2	4.0	200	1.6	4.0	0.6	IRFAF50		
SHD2188B	1000	5.6	3.5	200	2.0	3.5	0.6	IRFAG50		
										SHD-5B
SHD2391N	60	45	31	200	.02	31	0.6	IRFM054		
SHD2392N †	100	38	24	200	.055	24	0.6	IRFM150		
SHD2390N	100	75	50	300	.025	37.5	0.4	IXTM75N10		
<b>SHD2391F</b>	<b>100</b>	<b>75</b>	<b>50</b>	<b>300</b>	<b>.025</b>	<b>37.5</b>	<b>0.4</b>	<b>IXFM75N10</b>		
<b>SHD2393N</b>	<b>200</b>	<b>30</b>	<b>19</b>	<b>200</b>	<b>.085</b>	<b>19</b>	<b>0.6</b>	<b>IRFM250</b>		
SHD2392N † ‡	200	50	30	300	.05	25	0.4	IXTM50N20		
<b>SHD2392F</b>	<b>200</b>	<b>50</b>	<b>30</b>	<b>300</b>	<b>.05</b>	<b>25</b>	<b>0.4</b>	<b>IXFM50N20</b>		
SHD2394N †	400	14	9.0	200	.30	9.0	0.6	IRFM350		
<b>SHD2395N</b>	<b>500</b>	<b>12</b>	<b>7.75</b>	<b>200</b>	<b>.40</b>	<b>7.75</b>	<b>0.6</b>	<b>IRFM450</b>		
SHD2393N	500	24	18	300	.23	12	0.4	IXTM24N50		
<b>SHD2393F</b>	<b>500</b>	<b>24</b>	<b>18</b>	<b>300</b>	<b>.23</b>	<b>12</b>	<b>0.4</b>	<b>IXFM24N50</b>		
SHD2394N †	600	20	12	300	.35	10	0.4	IXTM20N60		
<b>SHD2394F</b>	<b>600</b>	<b>20</b>	<b>12</b>	<b>300</b>	<b>.35</b>	<b>10</b>	<b>0.4</b>	<b>IXFM20N60</b>		
SHD2396N †	800	7.1	4.5	200	1.2	4.5	0.6	IRFAE50		
SHD2395N	800	13	8.0	300	.80	6.5	0.4	IXTM13N80		
SHD2395F	800	13	8.0	300	.80	6.5	0.4	IXFM13N80		
SHD2397N †	900	6.2	4.0	200	1.6	4.0	0.6	IRFAF50		
SHD2396N †	900	12	7.2	300	.90	6.0	0.4	IXTM12N90		
SHD2396F	900	12	7.2	300	.90	6.0	0.4	IXFM12N90		
SHD2398N	1000	5.6	3.5	200	2.0	3.5	0.6	IRFAG50		
SHD2397N †	1000	12	7.2	300	1.05	6.0	0.4	IXTM12N100		
<b>SHD2397F</b>	<b>1000</b>	<b>12</b>	<b>7.2</b>	<b>300</b>	<b>1.05</b>	<b>6.0</b>	<b>0.4</b>	<b>IXFM12N100</b>		

Note: Suffix F in the part number, indicates that the device includes a fast intrinsic diode. Suffix N denotes new package style.

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**HERMETIC POWER MOSFETs (Continued)**

**P-CHANNEL, SURFACE MOUNT**

TYPE NUMBER	DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{(BR)DSS}$	CONTINUOUS DRAIN CURRENT $I_D$		MAXIMUM POWER DISSIPATION $P_D$	STATIC DRAIN TO SOURCE ON RESISTANCE $R_{DS(on)}$		MAXIMUM THERMAL RESISTANCE $R_{\theta JC}$	SIMILAR PART TYPE	PKG. STYLE
		Amps			Ohms	Amps			
		25°C	100°C						
SHD2189	-100	-18	-11	125	.20	-11	1.0	IRF9140	
SHD21810	-200	-11	-7	125	.50	-7	1.0	IRF9240	
SHD2189A	-100	-18	-11	125	.20	-11	1.0	IRF9140	
SHD21810A	-200	-11	-7	125	.50	-7	1.0	IRF9240	
SHD2189B	-100	-18	-11	125	.20	-11	1.0	IRF9140	
SHD21810B	-200	-11	-7	125	.50	-7	1.0	IRF9240	
SHD2309	-100	-13	-7.8	36	.22	-11	3.5	IRF9140	
SHD23010	-200	-8.5	-5.1	36	.52	-6	3.5	IRF9240	
SHD2199	-100	-18	-11	74	.20	-11	1.7	IRF9140	
SHD21910	-200	-11	-7	74	.50	-7	1.7	IRF9240	

**Notes:**

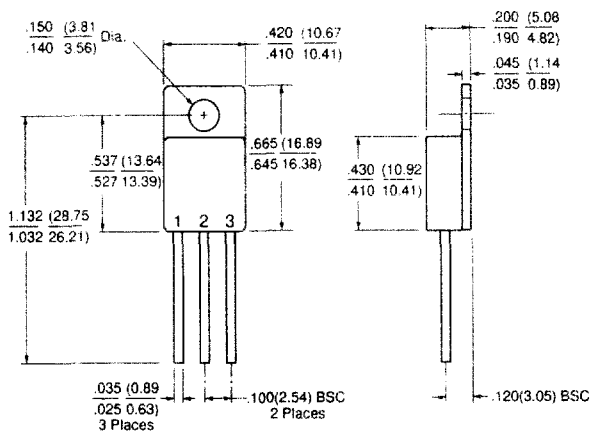
- All ratings are at  $T_C = 25^\circ\text{C}$  unless otherwise specified.
- Maximum operating and storage temperature  $-55^\circ\text{C}$  to  $+150^\circ\text{C}$ .

**PINOUTS**

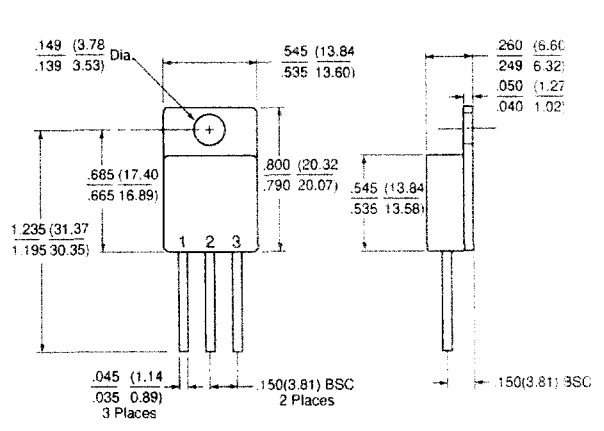
DEVICE TYPE	PIN 1	PIN 2	PIN 3
MOSFET - TO-257, TO-254	DRAIN	SOURCE	GATE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
MOSFET - SHD-5, SHD-5A, SHD-5B, LCC-3P, SHD-6	DRAIN	SOURCE	GATE

DEVICE TYPE	PINS 1 & 15, 28	PINS 5, 11	PINS 2, 3, 13, 14
MOSFET - LCC-28T	SOURCE	DRAIN	GATE



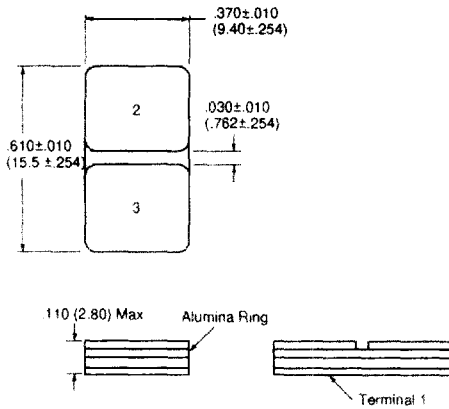
**TO - 257**



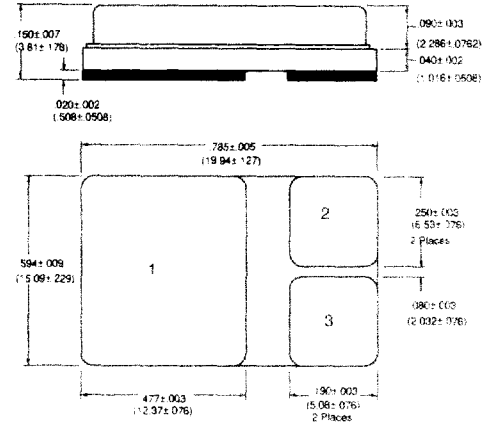
**TO - 254**

Note: Ceramic seals and GlidCop® leads available. See page 101 for ordering instructions.

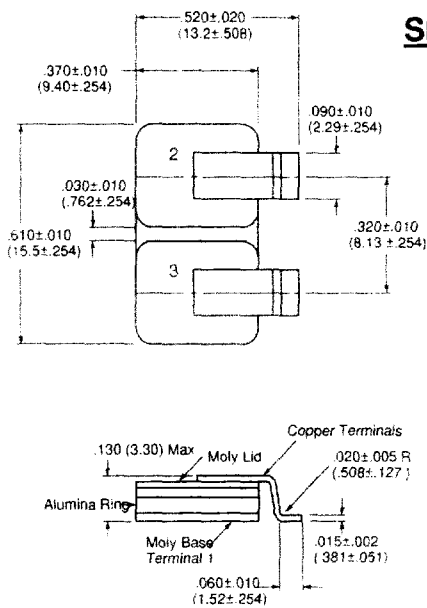
**SHD - 5**



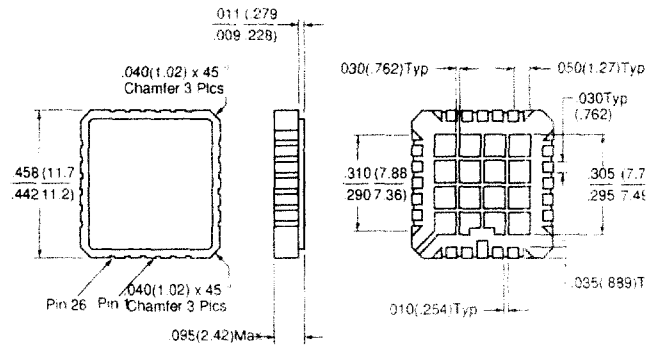
**SHD - 6**



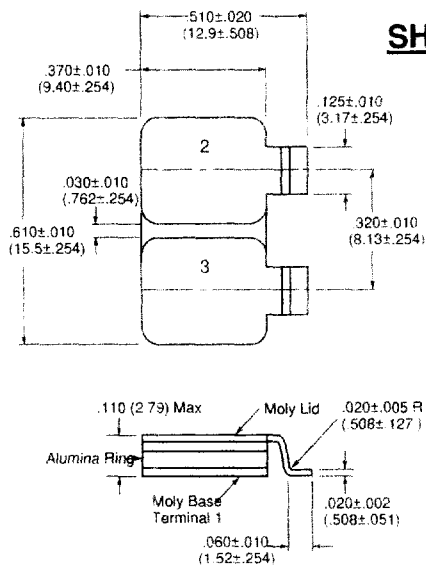
**SHD - 5B**



**LCC - 28T**



**SHD - 5A**



**LCC - 3P**

