

TECHNICAL DATA  
DATA SHEET 5392, Preliminary.1

## HERMETIC RAD HARD POWER N-CHANNEL MOSFET ARRAY

### FEATURES:

- Six individual 250 Volt, 0.16 Ohm, 12.4A RAD HARD MOSFETs <sup>(1)</sup>
- Single Event Effect (SEE) hardened, LET 55, Range: 90 $\mu$ m
  - $V_{GS} = -15V, V_{DS} = 250V$
  - $V_{GS} = -20V, V_{DS} = 160V$
- Single Event Effect (SEE) hardened, LET 85, Range: 118 $\mu$ m
  - $V_{GS} = -10V, V_{DS} = 250V$
  - $V_{GS} = -15V, V_{DS} = 120V$
- Total Ionization Dose (TID) hardened, 100kRad (Level R)
- Fast Switching
- Low  $R_{DS(on)}$

### MAXIMUM RATINGS

ALL RATINGS ARE AT  $T_C = 25^{\circ}C$  UNLESS OTHERWISE SPECIFIED.

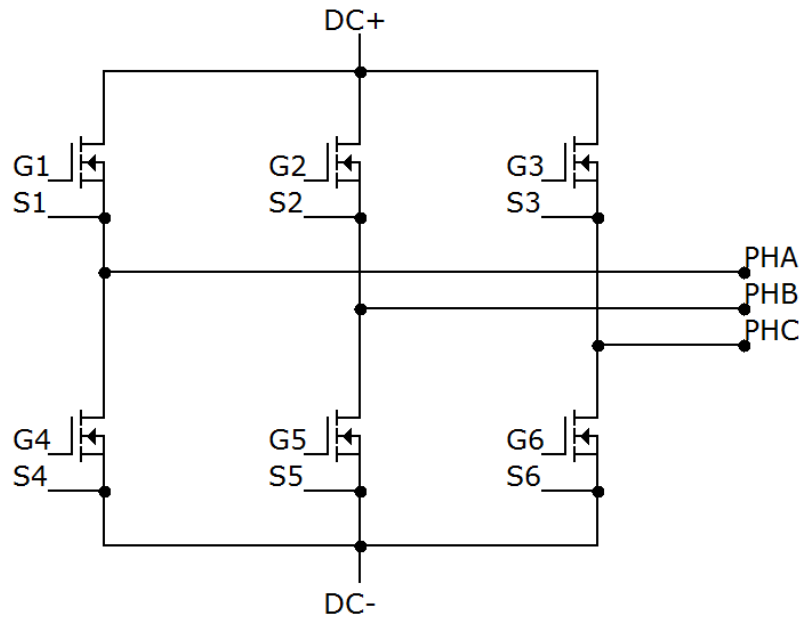
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	$V_{GS}$	-	-	$\pm 20$	Volts
ON-STATE DRAIN CURRENT	$I_D$	-	-	12.4	Amps
PULSED DRAIN CURRENT (LIMITED BY $T_{JMAX}$ )	$I_{DM}$	-	-	50	Amps
OPERATING AND STORAGE TEMPERATURE	$T_{OP}/T_{STG}$	-55	-	+150	$^{\circ}C$
TOTAL DEVICE DISSIPATION	$P_D$	-	-	TBD	Watts
THERMAL RESISTANCE, JUNCTION TO CASE	$R_{thJC}$	-	-	TBD	$^{\circ}C/W$
AVALANCE ENERGY	$E_{AS}$	-	-	60	mJ

### ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNITS
DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0V, I_D = 250\mu A$	$BV_{DSS}$	250	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10V, I_D = 8A$	$R_{DS(ON)}$	-	-	0.16	$\Omega$
GATE THRESHOLD VOLTAGE $V_{DS} \geq V_{GS}, I_D = 1mA$	$V_{GS(th)}$	2.0	-	4.0	Volts
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = 200V, V_{GS} = 0V$	$I_{DSS}$	-	-	25	$\mu A$
GATE TO SOURCE LEAKAGE FORWARD $V_{GS} = 20V$	$I_{GSS}$	-	-	100	nA
GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = -20V$		-	-	-100	nA
TURN ON DELAY TIME $V_{DD} = 125V$	$t_{d(ON)}$	-	25	-	nsec
RISE TIME $I_D = 8A,$	$t_r$	-	25	-	
TURN OFF DELAY TIME $R_G = 4.7\Omega$	$t_{d(OFF)}$	-	30	-	
FALL TIME	$t_f$	-	20	-	
DIODE FORWARD VOLTAGE $I_S = 12.4A$ $V_{GS} = 0V$	$V_{SD}$	-	-	1.25	Volts
REVERSE RECOVERY TIME $V_{DD} = 125V$ $I_f = 12.4A$	$t_{rr}$	-	-	400	nsec
INPUT CAPACITANCE $V_{GS} = 0V$	$C_{iss}$	-	1300	1900	pF
OUTPUT CAPACITANCE $V_{DS} = 100V$	$C_{oss}$	-	90	150	
REVERSE TRANSFER CAPACITANCE $f = 1.0MHz$		-	-	-	

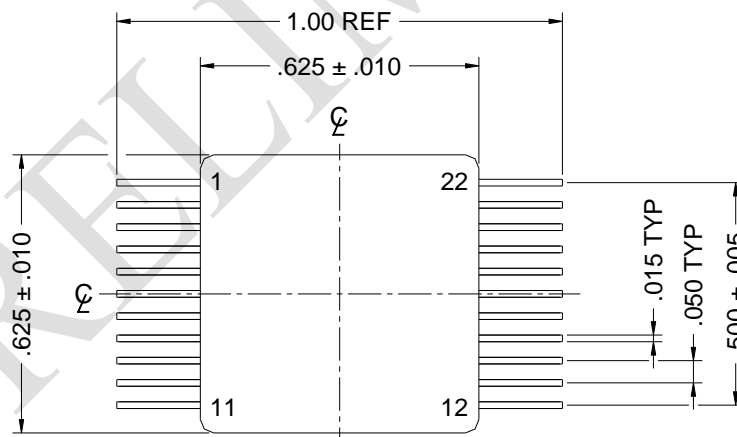
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**SCHEMATIC**

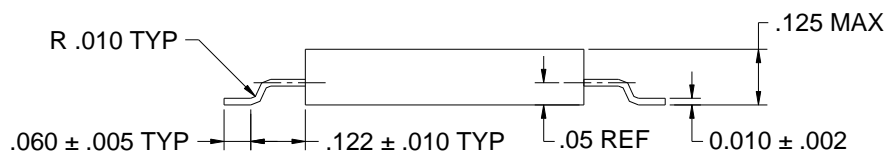


**MECHANICAL DIMENSIONS: in Inches / mm**

PINOUT	
1	D1
2	S1
3	G1
4	N/C
5	D2
6	S2
7	G2
8	N/C
9	D3
10	S3
11	G3



PINOUT	
22	G6
21	S6
20	D6
19	N/C
18	G5
17	S5
16	D5
15	N/C
14	G4
13	S4
12	D4



**22-Lead Flatpack**

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