

TECHNICAL DATA
DATA SHEET 702, REV -

HERMETIC POWER MOSFET N-CHANNEL

FEATURES:

- 500 Volt, 0.23 Ohm MOSFET
- Isolated and Hermetically Sealed
- Surface Mount Package

MAXIMUM RATINGS

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

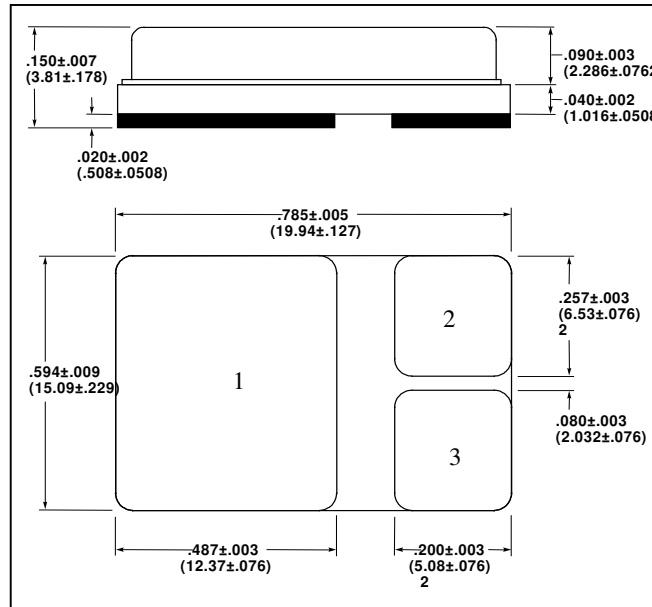
RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	± 20	Volts
CONTINUOUS DRAIN CURRENT $V_{GS}=10\text{V}, T_C = 25^\circ\text{C}$	I_D	-	-	24	Amps
PULSED DRAIN CURRENT @ $T_C = 25^\circ\text{C}$	I_{DM}	-	-	96	Amps
OPERATING AND STORAGE TEMPERATURE	T_{OP}/T_{STG}	-55	-	+150	$^\circ\text{C}$
TERMAL RESISTANCE JUNCTION TO CASE	$R_{\theta JC}$	-	-	0.27	$^\circ\text{C}/\text{W}$
TOTAL DEVICE DISSIPATION @ $T_C = 25^\circ\text{C}$	P_D	-	-	450	Watts

ELECTRICAL CHARACTERISTICS

DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}, I_D = 250\mu\text{A}$	BV_{DSS}	500	-	-	Volts
DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}, I_D = 12\text{A}$	$R_{DS(ON)}$	-	-	0.23	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}, I_D = 4\text{mA}$	$V_{GS(th)}$	2.0	-	4.0	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} = 10\text{V}, I_D = 12\text{A}$	g_{fs}	15	21	-	$\text{S}(1/\Omega)$
ZERO GATE VOLTAGE DRAIN CURRENT, $T_J = 25^\circ\text{C}$ ($V_{DS} = 0.8 \times \text{Max. Rating}, V_{GS} = 0\text{V}$), $T_J = 125^\circ\text{C}$	I_{DSS}	-	-	250 1000	μA
GATE TO SOURCE LEAKAGE FORWARD $V_{GS} = 20\text{V}$	I_{GSS}	-	-	100	nA
GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = -20\text{V}$				-100	
TOTAL GATE CHARGE $V_{GS} = 10\text{V},$	Q_g	-	135	160	nC
GATE TO SOURCE CHARGE $V_{DS} = 250\text{V},$	Q_{gs}		28	40	
GATE TO DRAIN CHARGE $I_D = 12\text{A}$	Q_{gd}		62	85	
TURN ON DELAY TIME $V_{Ds} = 250\text{V},$	$t_{d(ON)}$	-	16	25	nsec
RISE TIME $I_D = 12\text{A},$	t_r		33	45	
TURN OFF DELAY TIME $R_G = 2.0\Omega,$	$t_{d(OFF)}$		65	80	
FALL TIME $V_{GS} = 10\text{V}$	t_f		30	40	
DIODE FORWARD VOLTAGE $T_J = 25^\circ\text{C}, I_F = I_S,$ $V_{GS} = 0\text{V}$	V_{SD}	-	-	1.5	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C},$ $I_F = I_S,$ $di/dt \leq 100\text{A}/\mu\text{sec}$	t_{rr}	-	-	250	nsec
REVERSE RECOVERY CHARGE	Q_{rr}			1.0	μC
INPUT CAPACITANCE $V_{GS} = 0\text{V}, V_{DS} = 25\text{V},$	C_{iss}	-	4200	-	pF
OUTPUT CAPACITANCE $f=1\text{MHz}$	C_{oss}		450		
REVERSE TRANSFER CAPACITANCE	C_{rss}		135		

SENSITRON
DATA SHEET 702
REVISION -

MECHANICAL DIMENSIONS: in Inches / mm



SHD-6

PINOUT TABLE

DEVICE TYPE	PIN 1	PIN 2	PIN 3
MOSFET SHD-6 PACKAGE	DRAIN	SOURCE	GATE

TECHNICAL DATA

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