

TECHNICAL DATA
DATA SHEET 4203, REV. A**Cool-Mos HERMETIC POWER MOSFET****FEATURES:**

- 600 Volt, 0.07 Ohm, 47A MOSFET
- Isolated Hermetic Metal Package
- Low $R_{DS(on)}$; Low Effective Capacitance
- Ultra Low Gate Charge; very high dv/dt ratings
- Ceramic Seals with Glidcop leads (SHDCG224802)

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

RATING	SYMBOL	MIN.	TYP.	MAX.	UNITS
GATE TO SOURCE VOLTAGE	V_{GS}	-	-	± 20	Volts
ON-STATE DRAIN CURRENT	I_{D25}	-	-	47	Amps
ON-STATE DRAIN CURRENT $T=100^\circ\text{C}$	I_{D100}	-	-	30	Amps
PULSED DRAIN CURRENT	I_{DM}	-	-	140	Amps
AVALANCHE ENERGY SINGLE PULSE $I_D = 10\text{A}$, $V_{DD} = 50\text{V}$	E_{AS}	-	-	1800	mJ
AVALANCHE CURRENT	I_{AR}	-	-	20	A
TOTAL DEVICE DISSIPATION	P_D	-	-	300	Watts
REVERSE DIODE dv/dt; $I_S = 47\text{A}$; $V_{DS} = 480\text{V}$	-	-	-	6000	V/ μsec
OPERATING AND STORAGE TEMPERATURE	T_J/T_{STG}	-55	-	+150	$^\circ\text{C}$
THERMAL RESISTANCE, JUNCTION TO CASE	$R_{\theta JC}$	-	-	0.5	$^\circ\text{C/W}$

ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNITS
DRAIN TO SOURCE BREAKDOWN VOLTAGE $V_{GS} = 0\text{V}$, $I_D = 250\mu\text{A}$	BV_{DSS}	600	-	-	Volts
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}$, $I_D = 30\text{A}$ $T = 150^\circ\text{C}$	$R_{DS(ON)}$ Standard Version	-	0.07 0.18	0.08 -	Ω
STATIC DRAIN TO SOURCE ON STATE RESISTANCE $V_{GS} = 10\text{V}$, $I_D = 30\text{A}$ $T = 150^\circ\text{C}$	$R_{DS(ON)}$ Glidcop Version	-	0.06 0.16	0.07 -	Ω
GATE THRESHOLD VOLTAGE $V_{DS} = V_{GS}$, $I_D = 2.7\text{mA}$	$V_{GS(th)}$	2.1	3	3.9	Volts
FORWARD TRANSCONDUCTANCE $V_{DS} = 15\text{V}$, $I_D = 30\text{A}$	g_{fs}	-	40	-	S(1/ Ω)
ZERO GATE VOLTAGE DRAIN CURRENT $V_{DS} = \text{Max. rating}$, $V_{GS} = 0\text{V}$, $T_J = 25^\circ\text{C}$ $T_J = 150^\circ\text{C}$	I_{DSS}	-	0.5 -	25 250	μA
GATE TO SOURCE LEAKAGE FORWARD $V_{GS} = 20\text{V}$ GATE TO SOURCE LEAKAGE REVERSE $V_{GS} = -20\text{V}$	I_{GSS}	-	-	100 -100	nA
TURN ON DELAY TIME RISE TIME OFF DELAY TIME FALL TIME $V_{DD} = 380\text{V}$ $I_D = 47\text{A TURN}$ $V_{GS} = 13\text{V}$ $R_G = 1.8\Omega$	$t_{d(ON)}$ t_r $t_{d(OFF)}$ t_f	-	18 27 111 8	- - 165 12	nsec
GATE CHARGE $V_{DD} = 350\text{V}$, $I_D = 47\text{A}$, $V_{GS} = 10\text{V}$	Q_g	-	252	320	nC
DIODE FORWARD VOLTAGE $I_F = 47\text{A}$, $V_{GS} = 0\text{V}$ Pulse test, $t \leq 300\mu\text{s}$, duty cycle $d \leq 2\%$	V_{SD}	-	1.0	1.2	Volts
REVERSE RECOVERY TIME $T_J = 25^\circ\text{C}$, $I_F = 47\text{A}$, $V_R = 350\text{V}$ $di/dt = 100\text{A}/\mu\text{sec}$	t_{rr}	-	580	-	nsec
INPUT CAPACITANCE OUTPUT CAPACITANCE REVERSE TRANSFER CAPACITANCE $V_{GS} = 0\text{V}$, $V_{DS} = 25\text{V}$, $f = 1.0\text{MHz}$	C_{iss} C_{oss} C_{rss}	-	6800 2200 145	-	pF

TECHNICAL DATA

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