

PRELIMINARY SPECIFICATIONS

DE-275 101N30



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30A, 100V, 0.05Ω
 US Patents 4891686, 5640045
 Foreign Patents Pending
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ELECTRICAL CHARACTERISTICS		MIN	TYP	MAX	UNITS	TEST CONDITIONS
V_{DSS}	Drain-Source Voltage	-	-	100	v	
BV_{DSS}	Drain-Source Breakdown Voltage	100	-	-	v	V _{GS} = 0, I _{DS} = 250mA (1)
V_{GS(th)}	Gate Threshold Voltage	2	3	4	V	V _{DS} = V _{GS} , I _D = 250mA (1)
V_{GS}	Gate-Source Voltage Continuous	-	-	±20	V	
I_{DC}	Drain Current Continuous	-	-	30	A	(1) (5) (6)
I_{DP}	Drain Current Pulsed	-	-	240	A	(2) (4) (5) (6)
g_{fs}	Forward Transconductance	-	20	-	S	V _{GS} = 50V, I _{DS} = .5I _{DC} (1) (5)
R_{DS(on)}	Static Drain-Source On-State Resistance	-	.05	-	Ω	V _{GS} = 15V, I _{DS} = .5I _{DC} (1) (5)
C_{iss}	Input Capacitance	-	2500	-	pF	V _{DS} = .8BV _{DS}
C_{oss}	Output Capacitance	-	500	-	pF	f = 1.0MHz
C_{rss}	Reverse Transfer Capacitance	-	100	-	pF	(3)
t_{d(on)}	Turn-On Delay Time	-	5	-	ns	V _{DS} = .8BV _{DS}
t_r	Rise Time	-	5	-	ns	I _{DS} = .5I _{DC}
t_{d(off)}	Turn-Off Delay Time	-	8	-	ns	Z _{GD} £ 1W
t_f	Fall Time	-	8	-	ns	(2)
SOURCE-DRAIN DIODE CHARACTERISTICS		MIN	TYP	MAX	UNITS	TEST CONDITIONS
I_{SC}	Continuous Source Current (Body Diode)	-	-	30	A	(1) (5)
I_{SP}	Pulse Source Current (Body Diode)	-	-	240	A	(2) (4) (5)
V_{SD}	Diode Forward Voltage	-	-	2.5	V	I _{SD} = .5I _{SC} , V _{GS} = 0 (1) (5)
t_{rr}	Reverse Recovery Time	-	600	-	ns	I _{SD} = .5I _{SC}
THERMAL CHARACTERISTICS		MIN	TYP	MAX	UNITS	TEST CONDITIONS
R_{θJC}	Junction to Case	-	.390	-	°C/W	(6)
R_{θJHS}	Junction to Heat Sink	-	.45	-	°C/W	(1) (6)
R_{θJHA}	Junction to Ambient	-	28	-	°C/W	Free Air Operation (6)
P_{D AMB}	Power Dissipation Free Air Operation	-	4.5	-	W	Free Air Operation T _J = 150°C (6) (7)
P_{D HS}	Power Dissipation W (Heat Sink)	-	270	-	W	T _J = 150°C (6) (8)
T_J & T_{sto}	Operating and Storage Temperature	-55	-	+150	°C	
T_L	Max. Lead Temp. for Soldering	-	-	300	°C	

1) DEI Test Fixture P/N 6040-0023. (5) T_C = 25°C.
 2) DEI Test Fixture P/N 6040-1023. (6) See mounting instructions.
 3) DEI Test Fixture P/N 6040-2023. (7) T_{AMB} = 25°C.
 4) Pulse width and repetition rate limited by junction temperature. (8) T_{HS} = 25°C

