PRELIMINARY SPECIFICATIONS — DE-150 501N04

4.5A, 500V, 1.5Ω
US Patents 4891686, 5640045
Foreign Patents Pending
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ELECTRICAL CHARACTERISTICS		MIN	TYP	MAX	UNITS	TEST CONDITIONS
V_{DSS}	Drain-Source Voltage	-	-	500	v	
BV_{DSS}	Drain-Source Breakdown Voltage	500	-	-	v	V_{GS} = 0, I_{DS} = 250µA (1)
$V_{GS(th)}$	Gate Threshold Voltage	2	3	4	V	V_{DS} = V_{GS}, I_D = 250µA (1)
V_{GS}	Gate-Source Voltage Continuous	-	-	±20	V	
I_{DC}	Drain Current Continuous	-	-	4.5	A	(1) (5) (6)
I_{DP}	Drain Current Pulsed	-	-	36	A	(2) (4) (5) (6)
g_{fs}	Foward Transconductance	-	4	-	S	V_{GS} = 50V, I_{DS} = .5I_{DC} (1) (5)
$R_{DS(on)}$	Static Drain-Source On-State Resistance	-	1.5	-	Ω	V_{GS} = 15V, I_{DS} = .5I_{DC} (1) (5)
C_{iss}	Input Capacitance	-	600	-	pF	V_{DS} = .8BV_{DS}
C_{oss}	Output Capacitance	-	50	-	pF	f = 1.0MHz
C_{rss}	Reverse Transfer Capacitance	-	5	-	pF	(3)
$t_{d(on)}$	Turn-On Delay Time	-	4	-	ns	V_{DS} = .8BV_{DS}
$t_{(r)}$	Rise Time	-	4	-	ns	I_{DS} = .5I_{DC}
$t_{d(off)}$	Turn-Off Delay Time	-	4	-	ns	$Z_{GD} \leq 1\Omega$
t_f	Fall Time	-	4	-	ns	(2)

SOURCE-DRAIN DIODE CHARACTERISTICS		MIN	TYP	MAX	UNITS	TEST CONDITIONS
I_{SC}	Continuous Source Current (Body Diode)	-	-	4.5	A	(1) (5)
I_{SP}	Pulse Source Current (Body Diode)	-	-	36	A	(2) (4) (5)
V_{SD}	Diode Forward Voltage	-	-	1.6	V	I_{SD} = .5I_{SC}, V_{GS} = 0 (1) (5)
t_{rr}	Reverse Recovery Time	-	400	-	ns	I_{SD} = .5I_{SC}

THERMAL CHARACTERISTICS		MIN	TYP	MAX	UNITS	TEST CONDITIONS
$R_{\theta JC}$	Junction to Case	-	1.25	-	^oC/W	(6)
$R_{\theta JHS}$	Junction to Heat Sink	-	1.5	-	^oC/W	(1) (6)
$R_{\theta JHA}$	Junction to Ambient	-	35	-	^oC/W	Free Air Operation (6)
$P_{D\ AMB}$	Power Dissipation Free Air Operation	-	3.5	-	W	Free Air Operation T_J = 150^{o}C (6) (7)
$P_{D\ HS}$	Power Dissipation W (Heat Sink)	-	80	-	W	T_J= 150^{o}C (6) (8)
T_J & T_{sto}	Operating and Storage Temperature	-55	-	+150	^{o}C	
T_L	Max. Lead Temp. for Soldering	-	-	300	^{o}C	

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