

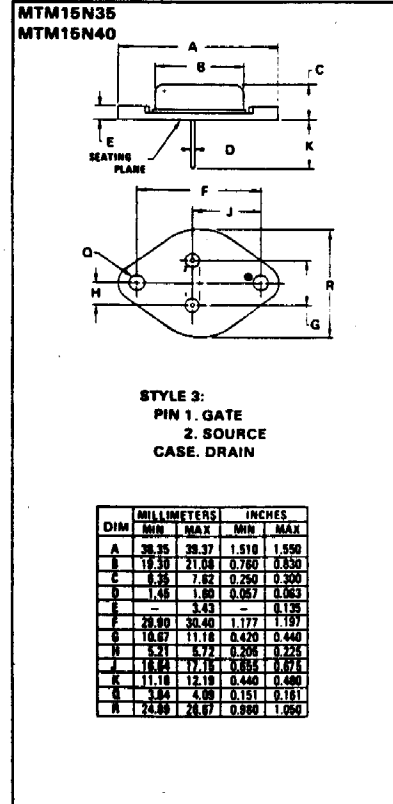
MTM15N35 MTM15N40

MAXIMUM RATINGS

Rating	Symbol	MTM15N35	MTM15N40	Unit
Drain-Source Voltage	V _{DSS}	350	400	V _{dc}
Drain-Gate Voltage (R _{GS} = 1.0 MΩ)	V _{DGR}	350	400	V _{dc}
Gate-Source Voltage	V _{GS}	±20		V _{dc}
Drain Current Continuous	I _D	15		A _{dc}
	I _{DM}	70		
Gate Current — Pulsed	I _{GM}	1.5		A _{dc}
Total Power Dissipation @ T _C = 25°C Derate above 25°C	P _D	250		Watts
		2.0		
Operating and Storage Temperature Range	T _J , T _{stg}	-65 to 150		°C

THERMAL CHARACTERISTICS

Thermal Resistance Junction to Case	R _{θJC}	0.5	°C/W
Maximum Lead Temp. for Soldering Purposes, 1/8" from case for 5 seconds	T _L	275	°C



ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Drain-Source Breakdown Voltage (V _{GS} = 0, I _D = 5.0 mA)	V _{(BR)DSS}	350 400	—	V _{dc}
Zero Gate Voltage Drain Current (V _{DS} = 0.85 Rated V _{DSS} , V _{GS} = 0) T _J = 100°C	I _{DSS}	—	0.25	mA _{dc}
Gate-Body Leakage Current (V _{GS} = 20 V _{dc} , V _{DS} = 0)	I _{GSS}	—	500	nA _{dc}
ON CHARACTERISTICS*				
Gate Threshold Voltage (I _D = 1.0 mA, V _{DS} = V _{GS}) T _J = 100°C	V _{GS(th)}	2.0 1.5	4.5 4.0	V _{dc}
Drain-Source On-Voltage (V _{GS} = 10 V) (I _D = 7.5 A _{dc}) (I _D = 15 A _{dc}) (I _D = 7.5 A _{dc} , T _J = 100°C)	V _{DS(on)}	—	2.25 6.0 4.5	V _{dc}
Static Drain-Source On-Resistance (V _{GS} = 10 V _{dc} , I _D = 7.5 A _{dc})	r _{DS(on)}	—	0.3	Ohms
Forward Transconductance (V _{DS} = 15 V, I _D = 7.5 A)	g _{fs}	8.0	—	mhos

SAFE OPERATING AREAS

Forward Biased Safe Operating Area	FBSOA	See Figure 9
Switching Safe Operating Area	SSOA	See Figure 10

DYNAMIC CHARACTERISTICS

Input Capacitance	(V _{DS} = 25 V, V _{GS} = 0, f = 1.0 MHz)	C _{iss}	—	3600	pF
Output Capacitance		C _{oss}	—	700	pF
Reverse Transfer Capacitance		C _{rss}	—	300	pF

SWITCHING CHARACTERISTICS* (T_J = 100°C)

Turn-On Delay Time	(V _{DS} = 125 V, I _D = 7.5 A, R _{gen} = 50 ohms)	t _{d(on)}	—	120	ns
Rise Time		t _r	—	300	ns
Turn-Off Delay Time		t _{d(off)}	—	400	ns
Fall Time		t _f	—	240	ns

SOURCE DRAIN DIODE CHARACTERISTICS*

Characteristic	Symbol	Typ	Unit
Forward On-Voltage	V _{SD}	1.0	V _{dc}
Forward Turn-On Time	t _{on}	175	ns
Reverse Recovery Time	t _{rr}	600	ns

*Pulse Test: Pulse Width ~ 300 μs, Duty Cycle ~ 2%

