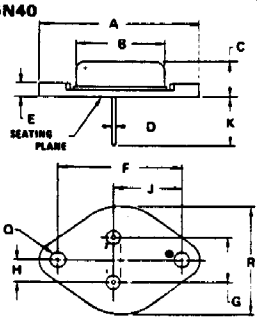
MTM15N35
MTM15N40

MTM15N35
MTM15N40



STYLE 3:
PIN 1. GATE
2. SOURCE
CASE. DRAIN

DIM	MILLIMETERS MIN	MILLIMETERS MAX	INCHES MIN	INCHES MAX
A	38.35	39.37	1.510	1.550
B	19.30	21.08	0.760	0.830
C	6.35	7.62	0.250	0.300
D	1.45	1.60	0.057	0.063
E	–	3.43	–	0.135
F	29.90	30.40	1.177	1.197
Q	10.67	11.18	0.420	0.440
H	5.21	5.72	0.205	0.225
J	16.84	17.15	0.655	0.675
K	11.18	12.19	0.440	0.480
Q	3.84	4.09	0.151	0.161
R	24.89	26.67	0.980	1.050

MAXIMUM RATINGS

Rating	Symbol	MTM15N35	MTM15N40	Unit
Drain-Source Voltage	V_{DSS}	350	400	Vdc
Drain-Gate Voltage (R_{GS} = 1.0 MΩ)	V_{DGR}	350	400	Vdc
Gate-Source Voltage	V_{GS}	±20		Vdc
Drain Current Continuous Pulsed	 I_D I_{DM}	 15 70		Adc
Gate Current — Pulsed	I_{GM}	1.5		Adc
Total Power Dissipation @ T_C = 25°C Derate above 25°C	P_D	250 2.0		Watts W/°C
Operating and Storage Temperature Range	T_J,T_{stg}	−65 to 150		°C

THERMAL CHARACTERISTICS

Thermal Resistance Junction to Case	$R_{\theta JC}$	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)	MTM15N35 MTM15N40	$V_{(BR)DSS}$	350 400	— —	Vdc
Zero Gate Voltage Drain Current (V_{DS} = 0.85 Rated V_{DSS}, V_{GS} = 0) T_J = 100°C		I_{DSS}	— —	0.25 2.5	mAdc
Gate-Body Leakage Current (V_{GS} = 20 Vdc, V_{DS} = 0)		I_{GSS}	—	500	nAdc
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	Vdc
Drain-Source On-Voltage (V_{GS} = 10 V) (I_D = 7.5 Adc) (I_D = 15 Adc) (I_D = 7.5 Adc, T_J = 100°C)		$V_{DS(on)}$	— — —	2.25 6.0 4.5	Vdc
Static Drain-Source On-Resistance (V_{GS} = 10 Vdc, I_D = 7.5 Adc)		$r_{DS(on)}$	—	0.3	Ohms
Forward Transconductance (V_{DS} = 15 V, I_D = 7.5 A)		g_{fs}	6.0	—	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	I_S = 15 A V_{GS} = 0	V_{SD}	1.0	Vdc
Forward Turn-On Time		t_{on}	175	ns
Reverse Recovery Time		t_{rr}	600	ns

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

Quality Semi-Conductors