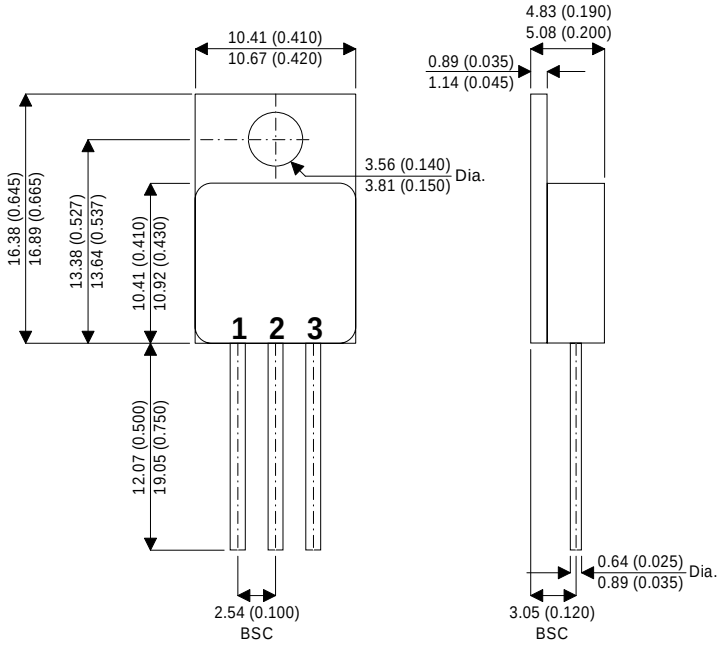
2N7081–220M–ISO

MECHANICAL DATA
Dimensions in mm(inches)



TO–220 Metal Package

Pin 1 – Gate Pin 2 – Drain Pin 3 – Source

N–CHANNEL POWER MOSFET

V_{DSS}	100V
$I_{D(cont)}$	11A
$R_{DS(on)}$	0.15Ω

FEATURES

- **TO–220 ISOLATED HERMETIC PACKAGE**
- **LOW $RDS_{(ON)}$**
- **SIMPLE DRIVE REQUIREMENTS**

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{DS}	Drain – Source Voltage		100V
V_{GS}	Gate – Source Voltage		±20V
I_D	Continuous Drain Current	T_C = 25°C	11A
		T_C = 100°C	7.7A
I_{DM}	Pulsed Drain Current [1]		48A
P_D	Power Dissipation	T_C = 25°C	45W
		T_C = 100°C	18W
T_J , T_{stg}	Operating and Storage Temperature Range		–55 to 150°C
T_L	Lead Temperature ($^1/_{16}$" from case for 10 sec.)		300°C

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ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
	STATIC ELECTRICAL RATINGS						
BV_{DSS}	Drain – Source Breakdown Voltage	V_{GS} = 0	I_D = 250µA	100			V
	Gate Threshold Voltage	V_{DS} = V_{GS}	I_D = 250µA	2		4	V
$V_{GS(th)}$	Gate – Body Leakage	V_{DS} = 0	V_{GS} = ±20V			±100	nA
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS} = 80V				25	µA
		V_{GS} = 0	T_J = 125°C			250	
$I_{D(on)}$	On–State Drain Current	V_{DS} = 10V	V_{GS} = 10V	11			A
$R_{DS(on)}$	Static Drain – Source On–State Resistance	V_{GS} = 10V			0.12	0.15	Ω
		I_D = 7.7A	T_J = 125°C		0.22	0.27	
g_{fs}	Forward Transconductance	V_{DS} = 15V	I_{DS} = 7.7A	4	5		S
	DYNAMIC CHARACTERISTICS						
C_{iss}	Input Capacitance	V_{GS} = 0		600			pF
C_{oss}	Output Capacitance	V_{DS} = 25V		190			
C_{rss}	Reverse Transfer Capacitance	f = 1MHz		35			
$t_{d(on)}$	Turn–On Delay Time	V_{DD} = 50V	I_D = 11A	7			ns
t_r	Rise Time	V_{GEN} =10V		45			
$t_{d(off)}$	Turn–Off Delay Time	R_L = 4.1Ω		30			
t_f	Fall Time	R_G = 7.5Ω		10			
	SOURCE – DRAIN DIODE CHARACTERISTICS						
I_S	Continuous Source Current					12	A
I_{SM}	Pulse Source Current [2]					48	
V_{SD}	Diode Forward Voltage	I_F =11	V_{GS} = 0			2.5	V
t_{rr}	Reverse Recovery Time	I_F = I_S		100		300	ns
Q_{rr}	Reverse Recovery Charge	dI_F/dt = 100A/µs		0.7			µC
	PACKAGE CHARACTERISTICS						
$R_{\theta JC}$	Thermal Resistance Junction – Case					2.8	K/W
$R_{\theta JA}$	Thermal Resistance Junction – Ambient					80	
$R_{\theta CS}$	Thermal Resistance Case – Sink				1		

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