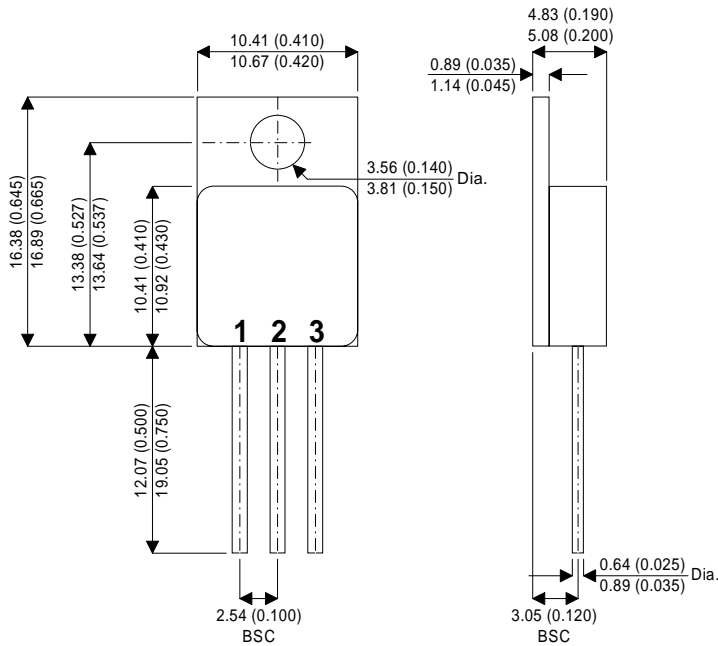


MECHANICAL DATA

Dimensions in mm(inches)

**N-CHANNEL
POWER MOSFET**



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

FEATURES

- TO-220 ISOLATED HERMETIC PACKAGE
- LOW $R_{DS(on)}$
- SIMPLE DRIVE REQUIREMENTS

TO-220 Metal Package

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

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

V_{DS}	Drain – Source Voltage	100V
V_{GS}	Gate – Source Voltage	±20V
I_D	Continuous Drain Current	$T_C = 25^{\circ}C$ 11A
		$T_C = 100^{\circ}C$ 7.7A
I_{DM}	Pulsed Drain Current ¹	48A
P_D	Power Dissipation	$T_C = 25^{\circ}C$ 45W
		$T_C = 100^{\circ}C$ 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

ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit		
STATIC ELECTRICAL RATINGS							
BV_{DSS}	Drain – Source Breakdown Voltage	$V_{GS} = 0$	$I_D = 250\mu\text{A}$	100		V	
	Gate Threshold Voltage	$V_{DS} = V_{GS}$	$I_D = 250\mu\text{A}$	2	4	V	
$V_{GS(th)}$	Gate – Body Leakage	$V_{DS} = 0$	$V_{GS} = \pm 20\text{V}$		± 100	nA	
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 80\text{V}$	$T_J = 125^\circ\text{C}$		25	μA	
		$V_{GS} = 0$			250		
$I_{D(on)}$	On–State Drain Current	$V_{DS} = 10\text{V}$	$V_{GS} = 10\text{V}$	11		A	
$R_{DS(on)}$	Static Drain – Source On–State Resistance	$V_{GS} = 10\text{V}$	$T_J = 125^\circ\text{C}$		0.12	0.15	Ω
		$I_D = 7.7\text{A}$			0.22	0.27	
g_{fs}	Forward Transconductance	$V_{DS} = 15\text{V}$	$I_{DS} = 7.7\text{A}$	4	5	S	
DYNAMIC CHARACTERISTICS							
C_{iss}	Input Capacitance	$V_{GS} = 0$		600		pF	
C_{oss}	Output Capacitance	$V_{DS} = 25\text{V}$		190			
C_{rss}	Reverse Transfer Capacitance	$f = 1\text{MHz}$		35			
$t_{d(on)}$	Turn–On Delay Time	$V_{DD} = 50\text{V}$	$I_D = 11\text{A}$	7		ns	
t_r	Rise Time	$V_{GEN} = 10\text{V}$		45			
$t_{d(off)}$	Turn–Off Delay Time	$R_L = 4.1\Omega$		30			
t_f	Fall Time	$R_G = 7.5\Omega$		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	$di_F/dt = 100\text{A}/\mu\text{s}$		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			