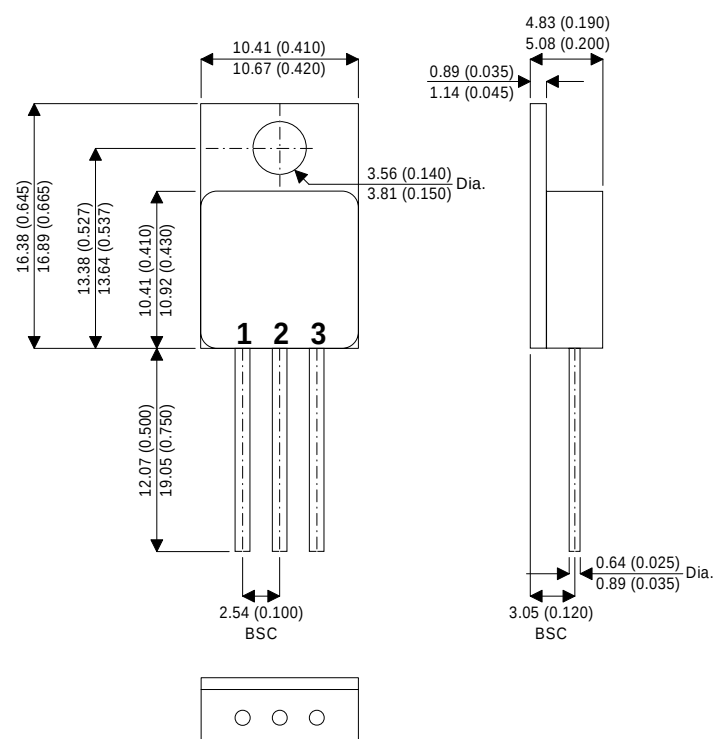


MECHANICAL DATA

Dimensions in mm (inches)


TO257AA – Metal Package

Pin 1 – Drain

Pin 2 – Source

Pin 3 – Gate

**N-CHANNEL
POWER MOSFET
FOR HI-REL
APPLICATIONS**
 V_{DS} **100V**
 $I_{D(max)}$ **14A**
 $R_{DS(on)}$ **.055Ω**
FEATURES

- HERMETICALLY SEALED TO257 METAL PACKAGE
- SIMPLE DRIVE REQUIREMENTS
- LIGHTWEIGHT
- SCREENING OPTIONS AVAILABLE
- ALL LEADS ISOLATED FROM CASE

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

V_{GS}	Gate – Source Voltage	$\pm 20V$
I_D	Continuous Drain Current ($V_{GS} = 0$, $T_{case} = 25^{\circ}C$)	34A
I_D	Continuous Drain Current ($V_{GS} = 0$, $T_{case} = 100^{\circ}C$)	21A
I_{DM}	Pulsed Drain Current ¹	136A
P_D	Power Dissipation @ $T_{case} = 25^{\circ}C$	100W
	Linear Derating Factor	0.8W/ $^{\circ}C$
T_J , T_{stg}	Operating and Storage Temperature Range	-55 to 150 $^{\circ}C$
T_L	Package Mounting Surface Temperature (for 5 sec)	300 $^{\circ}C$
$R_{\theta JC}$	Thermal Resistance Junction to Case	1.25 $^{\circ}C/W$ max.

Notes

 1) Pulse Test: Pulse Width $\leq 300ms$, $\delta \leq 2\%$

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

STATIC ELECTRICAL RATINGS							
BV _{DSS}	Drain – Source Breakdown Voltage	V _{GS} = 0	I _D = 250μA	100			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS}	I _D = 250μA	2.0		4.0	
I _{GSS}	Gate-Body Leakage Forward	V _{GS} ≤ 20V				100	nA
I _{GSS}	Gate-Body Leakage Reverse	V _{GS} = -20V				-100	
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = Max Rate, V _{GS} = 0V			0.1	0.25	mA
		V _{DS} = 0.8 Max Rate, V _{GS} = 0V T _C = 125°C			0.2	1.0	
V _{DS(on)}	Static Drain – Source On–State Voltage ¹	V _{GS} = 10V	I _D = 22A		1.10	1.30	V
R _{DS(on)}	Static Drain – Source On–State Resistance ¹	V _{GS} = 10V	I _D = 22A			0.55	Ω
DYNAMIC CHARACTERISTICS							
G _{fs}	Forward Transductance ¹	V _{DS} = 25V	I _D = 22A	14			S
C _{iss}	Input Capacitance	V _{GS} = 0V			1900		pF
C _{oss}	Output Capacitance	V _{DS} = 25V			450		
C _{rss}	Reverse Transfer Capacitance	F = 1MHz			230		
t _{d(on)}	Turn–On Delay Time	V _{DD} = 50V RG = 3.6Ω	I _D = 22A R _D = 2.9Ω		11		ns
t _r	Rise Time				56		
t _{d(off)}	Turn–Off Delay Time				45		
t _f	Fall Time				40		
SOURCE – DRAIN DIODE CHARACTERISTICS							
I _S	Continuous Source Current (Body Diode)	Modified MOSPOWER smbol showing the integral P-N Junction rectifier				34	A
I _{SM}	Source Current ¹ (Body Diode)					112	
V _{SD}	Diode Forward Voltage	I _S = 22A ,V _{GS} = 0V, T _C = 25°C				1.3	V
t _{rr}	Reverse Recovery Time	T _J = 25°C I _F =22A			180	270	ns
Q _{rr}	Reverse Recovery Charge	di / dt = 100A/μs			1.2	1.8	μC

Notes

1) Pulse Test: Pulse Width $\leq 300\text{ms}$, $\delta \leq 2\%$