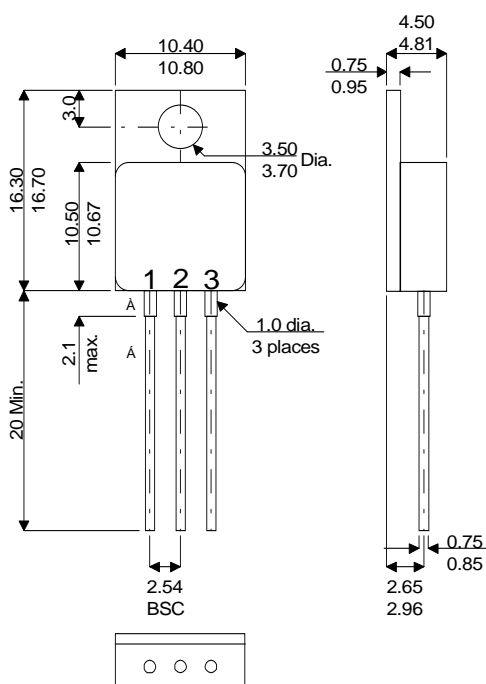


MECHANICAL DATA

Dimensions in mm (inches)


TO257 Flexilead – Metal Package

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

**N-CHANNEL
POWER MOSFET
FOR HI-REL
APPLICATIONS**

V_{DS}	100V
$I_{D(max)}$	18A
$R_{DS(on)}$.044Ω

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)

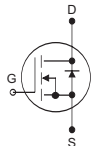
V_{GS}	Gate – Source Voltage	$\pm 20V$
I_D	Continuous Drain Current ($V_{GS} = 0, T_{case} = 25^{\circ}C$)	18A
I_D	Continuous Drain Current ($V_{GS} = 0, T_{case} = 100^{\circ}C$)	18A
I_{DM}	Pulsed Drain Current ¹	72A
P_D	Power Dissipation @ $T_{case} = 25^{\circ}C$	100W
	Linear Derating Factor	0.8W/ $^{\circ}C$
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 $\leq 300ms$, $\delta \leq 2\%$

Semelab Plc reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.

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

STATIC ELECTRICAL RATINGS							
Parameter	Test Conditions	Min.	Typ.	Max.	Unit		
BV_{DSS} Drain – Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 250\mu\text{A}$	100			V		
$V_{GS(th)}$ Gate Threshold Voltage	$V_{DS} = V_{GS}$ $I_D = 250\mu\text{A}$	2.0		4.0			
I_{GSS} Gate-Body Leakage Forward	$V_{GS} \leq 20\text{V}$			100	nA		
I_{GSS} Gate-Body Leakage Reverse	$V_{GS} = -20\text{V}$			-100			
I_{DSS} Zero Gate Voltage Drain Current	$V_{DS} = 100\text{V}, V_{GS} = 0\text{V}$			25	μA		
	$V_{DS} = 80\text{V}, V_{GS} = 0\text{V}$ $T_C = 125^{\circ}\text{C}$			250			
$R_{DS(on)}$ Static Drain – Source On–State Resistance ¹	$V_{GS} = 10\text{V}$ $I_D = 18\text{A}$			0.44	Ω		
DYNAMIC CHARACTERISTICS							
G_{fs} Forward Transductance ¹	$V_{DS} = 25\text{V}$ $I_D = 18\text{A}$	14			S		
C_{iss} Input Capacitance	$V_{GS} = 0\text{V}$		1872		pF		
C_{oss} Output Capacitance	$V_{DS} = 25\text{V}$		463				
C_{rss} Reverse Transfer Capacitance	$F = 1\text{MHz}$		234				
$t_{d(on)}$ Turn–On Delay Time	$V_{DD} = 50\text{V}$ $I_D = 18\text{A}$ $R_G = 3.6\Omega$ $V_{GS} = 10\text{V}$		19		ns		
t_r Rise Time			85				
$t_{d(off)}$ Turn–Off Delay Time			65				
t_f Fall Time			54				
SOURCE – DRAIN DIODE CHARACTERISTICS							
I_S Continuous Source Current (Body Diode)	Modified MOSPOWER symbol showing the integral P-N Junction rectifier			18	A		
I_{SM} Source Current ¹ (Body Diode)				72			
V_{SD} Diode Forward Voltage	$I_S = 18\text{A}, V_{GS} = 0\text{V}, T_C = 25^{\circ}\text{C}$			1.3	V		
t_{rr} Reverse Recovery Time	$T_J = 25^{\circ}\text{C}$ $I_F = 18\text{A}$			270	ns		
Q_{rr} Reverse Recovery Charge	$di / dt = 100\text{A}/\mu\text{s}$			1.8	μC		

Notes

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