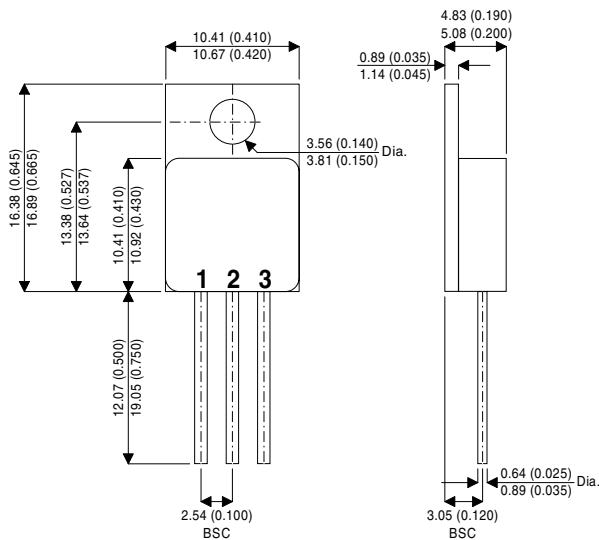


**MECHANICAL DATA**

Dimensions in mm(inches)



**TO-257AB Metal Package**

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

**P-CHANNEL  
ENHANCEMENT MODE  
TRANSISTOR**

$V_{(BR)DSS}$       -100V  
 $I_{D(A)}$             -14A  
 $R_{DS(on)}$          0.20Ω

**FEATURES**

- TO257AB HERMETIC PACKAGE FOR HIGH RELIABILITY APPLICATIONS
- SCREENING OPTIONS AVAILABLE
- SIMPLE DRIVE REQUIREMENTS

**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 ( $T_J = 150^{\circ}C$ )	$T_C = 25^{\circ}C$	-14A
		$T_C = 100^{\circ}C$	-8.7A
$I_{DM}$	Pulsed Drain Current		56A
$P_D$	Power Dissipation	$T_C = 25^{\circ}C$	70W
		$T_C = 100^{\circ}C$	27W
$T_J, T_{stg}$	Operating Junction 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** ( $T_J = 25^\circ\text{C}$  unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit		
<b>STATIC ELECTRICAL RATINGS</b>							
$V_{(BR)DSS}$	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	-4	V	
$I_{GSS}$	Gate – Body Leakage	$V_{DS} = 0$	$V_{GS} = \pm 20\text{V}$		$\pm 100$	nA	
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS} = -80\text{V}$ $V_{GS} = 0$	$T_J = 125^\circ\text{C}$		-25 -250	$\mu\text{A}$	
$I_{D(on)}$	On–State Drain Current <sup>1</sup>	$V_{DS} = -10\text{V}$	$V_{GS} = -10\text{V}$	-14		A	
$r_{DS(on)}$	Drain – Source On–State Resistance <sup>1</sup>	$V_{GS} = -10\text{V}$ $I_D = 8.7\text{A}$	$T_J = 125^\circ\text{C}$		0.15 2.3	$\Omega$	
$g_{fs}$	Forward Transconductance <sup>1</sup>	$V_{DS} = -15\text{V}$	$I_{DS} = -8.7\text{A}$	5.0		S	
<b>DYNAMIC CHARACTERISTICS</b>							
$C_{iss}$	Input Capacitance	$V_{GS} = 0$			1300	pF	
$C_{oss}$	Output Capacitance	$V_{DS} = 25\text{V}$			750		
$C_{rss}$	Reverse Transfer Capacitance	$f = 1\text{MHz}$			310		
$Q_g$	Total Gate Charge <sup>2</sup>	$V_{DS} = -50$			50	62	nC
$Q_{gs}$	Gate Source Charge <sup>2</sup>	$V_{GS} = -10\text{V}$	$I_D = -14\text{A}$		10	15	
$Q_{gd}$	Gate Drain Charge <sup>2</sup>				27	35	
$t_{d(on)}$	Turn–On Delay Time <sup>2</sup>	$V_{DD} = -50\text{V}$	$I_D = -14\text{A}$		10	30	ns
$t_r$	Rise Time <sup>2</sup>	$V_{GEN} = -10\text{V}$			50	80	
$t_{d(off)}$	Turn–Off Delay Time <sup>2</sup>	$R_L = 3.5\Omega$			40	80	
$t_f$	Fall Time <sup>2</sup>	$R_G = 4.7\Omega$			40	60	
<b>SOURCE – DRAIN DIODE CHARACTERISTICS</b>							
$I_S$	Continuous Current				-14	A	
$I_{SM}$	Pulsed Current				-56		
$V_{SD}$	Diode Forward Voltage <sup>1</sup>	$I_F = -14\text{A}$	$V_{GS} = 0$		-2	V	
$t_{rr}$	Reverse Recovery Time	$I_F = -14\text{A}$			150	300	ns
$Q_{rr}$	Reverse Recovery Charge	$di/dt = 100\text{A}/\mu\text{s}$			0.3		$\mu\text{C}$

<sup>1</sup> Pulse test : Pulse Width < 300 $\mu\text{s}$  ,Duty Cycle < 2%

<sup>2</sup> Independent of Operating Temperature

**THERMAL RESISTANCE CHARACTERISTICS**

Parameter	Min.	Typ.	Max.	Unit
$R_{thJC}$			1.8	
$R_{thJA}$			80	$^\circ\text{C}/\text{W}$
$R_{thCS}$		1.0		

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