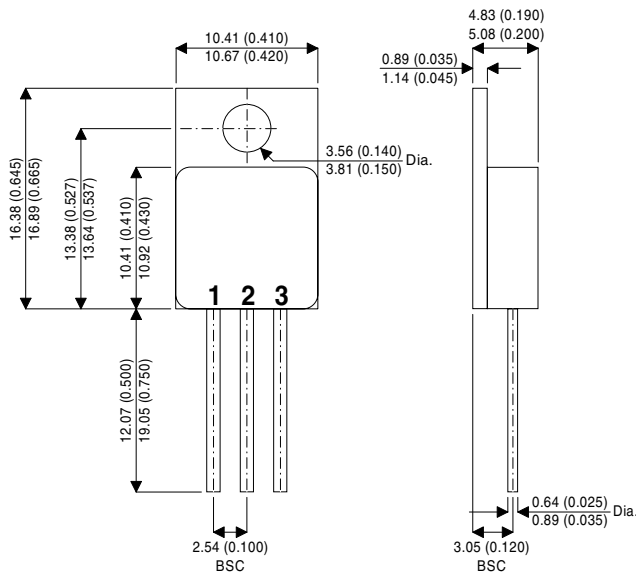


MECHANICAL DATA

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		
STATIC ELECTRICAL RATINGS							
$V_{(BR)DSS}$	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	$V_{DS} = 0$	$V_{GS} = \pm 20\text{V}$		± 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	μA	
$I_{D(on)}$	On–State Drain Current ¹	$V_{DS} = -10\text{V}$	$V_{GS} = -10\text{V}$	-14		A	
$r_{DS(on)}$	Drain – Source On–State Resistance ¹	$V_{GS} = -10\text{V}$ $I_D = 8.7\text{A}$	$T_J = 125^\circ\text{C}$		0.15 2.3 0.32	Ω	
g_{fs}	Forward Transconductance ¹	$V_{DS} = -15\text{V}$	$I_{DS} = -8.7\text{A}$	5.0		S	
DYNAMIC CHARACTERISTICS							
C_{iss}	Input Capacitance	$V_{GS} = 0$			1300	pF	
C_{oss}	Output Capacitance	$V_{DS} = 25\text{V}$			750		
C_{riss}	Reverse Transfer Capacitance	$f = 1\text{MHz}$			310		
Q_g	Total Gate Charge ²	$V_{DS} = -50$			50	62	nC
Q_{gs}	Gate Source Charge ²	$V_{GS} = -10\text{V}$	$I_D = -14\text{A}$		10	15	
Q_{gd}	Gate Drain Charge ²				27	35	
$t_{d(on)}$	Turn–On Delay Time ²	$V_{DD} = -50\text{V}$	$I_D = -14\text{A}$		10	30	ns
t_r	Rise Time ²	$V_{GEN} = -10\text{V}$			50	80	
$t_{d(off)}$	Turn–Off Delay Time ²	$R_L = 3.5\Omega$			40	80	
t_f	Fall Time ²	$R_G = 4.7\Omega$			40	60	
SOURCE – DRAIN DIODE CHARACTERISTICS							
I_S	Continuous Current				-14	A	
I_{SM}	Pulsed Current				-56		
V_{SD}	Diode Forward Voltage ¹	$I_F = -14\text{A}$	$V_{GS} = 0$		-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		μC

¹ Pulse test : Pulse Width < 300 μs ,Duty Cycle < 2%

² 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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