10.41 (0.410) 10.67 (0.420) 0.89 (0.035) 1.14 (0.045) 3.56 (0.140) 3.81 (0.150) Dia. 16.38 (0.645) 16.89 (0.665) 13.38 (0.527) 13.64 (0.537) 10.41 (0.410) 10.92 (0.430) 1 2 3

2.54 (0.100) BSC

TO-257AB Metal Package

Pin 1 – Gate

Pin 2 – Drain Pin 3 – Source

3.05 (0.120)

BSC

4.83 (0.190) 5.08 (0.200

TO257AB HERMETIC PACKAGE FOR HIGH RELIABILITY APPLICATIONS

FEATURES

- SCREENING OPTIONS AVAILBLE •
- SIMPLE DRIVE REQUIREMENTS ٠

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

0.64 (0.025) 0.89 (0.035) Dia

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 Tempera	nction and Storage Temperature Range	
TL	ead Temperature (1/16" from case for 10 sec.)		300°C

Semelab PIc 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.

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-14A I_{D(A)} R_{DS(on)} 0.20Ω

-100V

P-CHANNEL ENHANCEMENT MODE TRANSISTOR

V_{(BR)DSS}

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Dimensions in mm(inches)

12.07 (0.500) 19.05 (0.750)



2N7091

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

F	Parameter	Test Cond	litions	Min.	Тур.	Max.	Unit	
S	TATIC ELECTRICAL RATINGS	•				1		
V _{(BR)DSS}	Drain–Source Breakdown Voltage	$V_{GS} = 0$	Ι _D = -250μΑ	-100			V	
V _{GS(th)}	Gate Threshold Voltage	$V_{DS} = V_{GS}$	I _D = -250μA	-2		-4	V	
I _{GSS}	Gate – Body Leakage	$V_{DS} = 0$	$V_{GS} = \pm 20V$			±100	nA	
I _{DSS}	7	V _{DS} = -80V				-25		
	Zero Gate Voltage Drain Current	$V_{GS} = 0$	T _J = 125°C			-250	μA	
I _{D(on)}	On-State Drain Current ¹	V _{DS} = -10V	V _{GS} = -10V	-14			Α	
r	Drain – Source On–State	V _{GS} = -10V			0.15	0.20	Ω	
r _{DS(on)}	Resistance ¹	I _D = 8.7A	T _J = 125°C		2.3	0.32		
9 _{fs}	Forward Transconductance ¹	V _{DS} = -15V	I _{DS} = -8.7A	5.0			S	
D	YNAMIC CHARACTERISTICS			•				
C _{iss}	Input Capacitance	$V_{GS} = 0$			1300			
C _{oss}	Output Capacitance	V _{DS} = 25V f = 1MHz			750		pF	
C _{rss}	Reverse Transfer Capacitance				310			
Qg	Total Gate Charge ²	V _{DS} = -50			50	62		
Q _{gs}	Gate Source Charge ²	$V_{\rm DS} = -50$ $V_{\rm GS} = -10V$ $I_{\rm D} = -14A$		10	15	nC		
Q _{gd}	Gate Drain Charge ²		$I_{\rm D} = -14$ A		27	35		
t _{d(on)}	Turn–On Delay Time ²	V _{DD} = -50V	I _D = -14A		10	30		
t _r	Rise Time ²	V _{GEN} =-10V			50	80		
t _{d(off)}	Turn–Off Delay Time ²	$R_L = 3.5\Omega$			40	80	– ns –	
t _f	Fall Time ²	$R_{G} = 4.7\Omega$			40	60		
S	OURCE – DRAIN DIODE CHARAC	TERISTICS				1		
۱ _S	Continuous Current					-14	A	
I _{SM}	Pulsed Current					-56		
V _{SD}	Diode Forward Voltage ¹	I _F = -14A	$V_{GS} = 0$			-2	V	
t _{rr}	Reverse Recovery Time	I _F = -14A			150	300	ns	
Q _{rr}	Reverse Recovery Charge	di/dt = 100A/µs	6		0.3		μC	

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

² Independent of Operating Temperature

THERMAL RESISTANCECHARACTERISTICS

	Parameter	Min.	Тур.	Max.	Unit
R _{thJC}	Thermal resistance Junction-Case			1.8	
R _{thJA}	Thermal resistance Junction-ambient			80	°C/W
R _{thCS}	Thermal resistance Case to Sink		1.0		

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