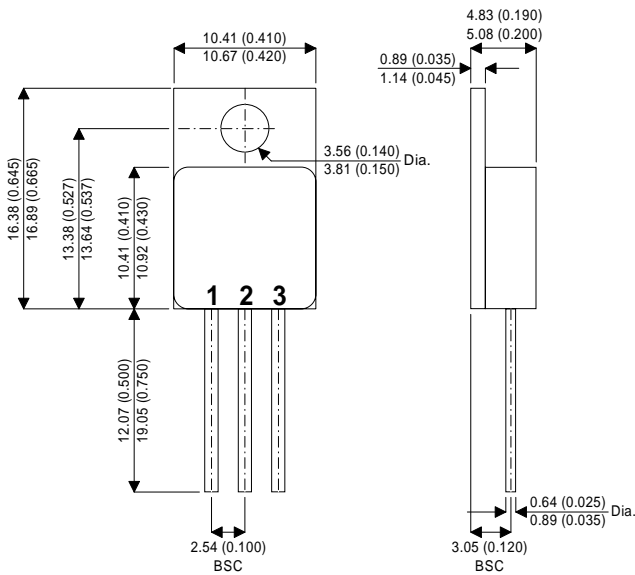


MECHANICAL DATA

Dimensions in mm(inches)

**N-CHANNEL
ENHANCEMENT MODE
TRANSISTOR**



TO-257AB Metal Package

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

$V_{(BR)DSS}$ **200V**
 $I_{D(A)}$ **14A**
 $R_{DS(on)}$ **0.16Ω**

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	200V
V_{GS}	Gate – Source Voltage	±20V
I_D	Continuous Drain Current	$T_C = 25^{\circ}C$ 14A
		$T_C = 100^{\circ}C$ 8.5A
I_{DM}	Pulsed Drain Current ¹	56A
P_D	Power Dissipation	$T_C = 25^{\circ}C$ 60W
		$T_C = 100^{\circ}C$ 23W
T_J, T_{stg}	Operating and Storage Temperature Range	-55 to 150°C
T_L	Lead Temperature (¹ / ₁₆ " from case for 10 sec.)	300°C

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

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
STATIC ELECTRICAL RATINGS					
$BV_{(BR)DSS}$ Drain–Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 250\mu\text{A}$	200			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	$V_{DS} = 160\text{V}$ $V_{GS} = 0$			25	μA
	$T_J = 125^\circ\text{C}$			250	
$I_{D(on)}$ On–State Drain Current ¹	$V_{DS} = 10\text{V}$ $V_{GS} = 10\text{V}$	14			A
$R_{DS(on)}$ Static Drain – Source On–State Resistance ¹	$V_{GS} = 10\text{V}$ $I_D = 8.5\text{A}$		0.14	0.16	Ω
	$T_J = 125^\circ\text{C}$		0.25	0.30	
g_{fs} Forward Transconductance ¹	$V_{DS} = 15\text{V}$ $I_{DS} = 8.5\text{A}$	5.0			S
DYNAMIC CHARACTERISTICS					
C_{iss} Input Capacitance	$V_{GS} = 0$		1550		pF
C_{oss} Output Capacitance	$V_{DS} = 25\text{V}$		500		
C_{rss} Reverse Transfer Capacitance	$f = 1\text{MHz}$		220		
Q_g Total Gate Charge ²	$V_{DS} = 0.5 \times V_{(BR)DSS}$ $V_{GS} = 10\text{V}$ $I_D = 14\text{A}$	30	44	77	nC
Q_{gs} Gate Source Charge ²		4.6	10	15	
Q_{gd} Gate Drain Charge ²		13	26	35	
$t_{d(on)}$ Turn–On Delay Time ²	$V_{DD} = 100\text{V}$ $I_D = 14\text{A}$		10	30	ns
t_r Rise Time ²	$V_{GEN} = 10\text{V}$		60	100	
$t_{d(off)}$ Turn–Off Delay Time ²	$R_L = 7.1\Omega$		30	80	
t_f Fall Time ²	$R_G = 4.7\Omega$		40	95	
SOURCE – DRAIN DIODE CHARACTERISTICS					
I_S Continuous Current				114	A
I_{SM} Pulse Current ³				56	
V_{SD} Forward Voltage	$I_F = I_S$ $V_{GS} = 0$			2.0	V
t_{rr} Reverse Recovery Time	$I_F = I_S$		150	650	ns
Q_{rr} Reverse Recovery Charge	$di_F/dt = 100\text{A}/\mu\text{s}$		0.5		μC

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

²Independent of Operating Temperature

³Pulse width Limited by maximum Junction Temperature

THERMAL RESISTANCE CHARACTERISTICS

Parameter	Min.	Typ.	Max.	Unit
R_{thJC} Thermal resistance Junction-Case			2.1	
R_{thJA} Thermal resistance Junction-ambient			80	K/W
R_{thCS} Thermal resistance Junction-ambient		1.0		



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