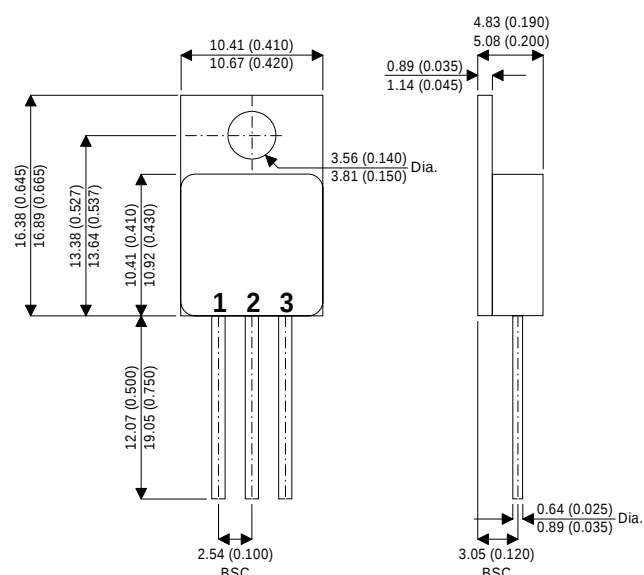


MECHANICAL DATA

Dimensions in mm(inches)



TO-257AB Metal Package

Pin 1 – Gate

Pin 2 – Drain

Pin 3 – Source

N-CHANNEL ENHANCEMENT MODE TRANSISTOR

$V_{(BR)DSS}$	100V
$I_{D(A)}$	20A
$R_{DS(on)}$	0.075Ω

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 ($T_J = 150^{\circ}C$)	20A
	$T_C = 25^{\circ}C$	20A
	$T_C = 100^{\circ}C$	12A
I_{DM}	Pulsed Drain Current	80A
P_D	Power Dissipation	60W
	$T_C = 25^{\circ}C$	60W
	$T_C = 100^{\circ}C$	20W
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

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 = 250μA	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} = ±20V			±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 80V				25	μA
		V _{GS} = 0	T _J = 125°C			250	
I _{D(on)}	On–State Drain Current ¹	V _{DS} = 10V	V _{GS} = 10V	20			A
r _{DS(on)}	Drain – Source On–State	V _{GS} = 10V			0.06	0.075	Ω
	Resistance ¹	I _D = 12A	T _J = 125°C		0.11	0.14	
g _{fs}	Forward Transconductance ¹	V _{DS} = 15V	I _{DS} = 12A	5.0	8.0		S
DYNAMIC CHARACTERISTICS							
C _{iss}	Input Capacitance	V _{GS} = 0			1400		pF
C _{oss}	Output Capacitance	V _{DS} = 25V			480		
C _{rss}	Reverse Transfer Capacitance	f = 1MHz			110		
Q _g	Total Gate Charge ²	V _{DS} = 0.5 x V _{(BR)DSS} ^{50V}			35	50	nC
Q _{gs}	Gate Source Charge ²	V _{GS} = 10V			10	20	
Q _{gd}	Gate Drain Charge ²	I _D = 20A			18	25	
t _{d(on)}	Turn–On Delay Time ²	V _{DD} = 50V	I _D = 20A		13	30	ns
t _r	Rise Time ²	V _{GEN} =10V			85	120	
t _{d(off)}	Turn–Off Delay Time ²	R _L = 2.5Ω			35	80	
t _f	Fall Time ²	R _G = 4.7Ω			75	95	
SOURCE – DRAIN DIODE CHARACTERISTICS							
I _S	Continuous Current					20	A
I _{SM}	Pulsed Current					80	
V _{SD}	Diode Forward Voltage ¹	I _F = 20A	V _{GS} = 0			2.5	V
t _{rr}	Reverse Recovery Time	I _F = 20A			150	400	ns
Q _{rr}	Reverse Recovery Charge	di/dt = 100A/μs			0.5		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} Thermal resistance Junction-Case			2.1	
R_{thJA} Thermal resistance Junction-ambient			80	$^\circ\text{C}/\text{W}$
R_{thCS} Thermal resistance Case to Sink		1.0		