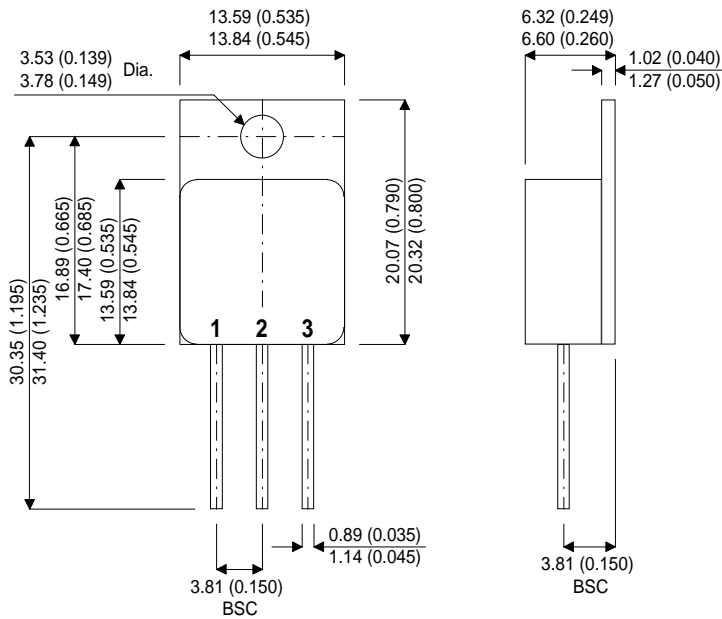


**MECHANICAL DATA**

Dimensions in mm (inches)



**N-CHANNEL  
POWER MOSFET**

$V_{DSS}$             **55V**  
 $I_{D(cont)}$         **35A**  
 $R_{DS(on)}$         **0.015Ω**

**FEATURES**

- N-CHANNEL MOSFET
- HERMETIC ISOLATED TO-254 PACKAGE
- CERAMIC SURFACE MOUNT PACKAGE OPTION

**TO-254AA – Isolated Metal Package**

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

**ABSOLUTE MAXIMUM RATINGS** ( $T_C = 25^\circ C$  unless otherwise stated)

$V_{GS}$	Gate – Source Voltage		$\pm 20V$
$I_D$	Continuous Drain Current*	@ $V_{GS} = 10V, T_C = 25^\circ C$	35A
		@ $V_{GS} = 10V, T_C = 100^\circ C$	35A
$I_{DM}$	Pulsed Drain Current		140A
$P_D$	Max. Power Dissipation	@ $T_C = 25^\circ C$	125W
	Linear Derating Factor		1.0W / °C
$I_L$	Avalanche Current, Clamped <sup>1</sup>		35A
dv / dt	Peak Diode Recovery <sup>2</sup>		2.6V / ns
$R_{\theta JC}$	Thermal Resistance Junction – Case		1.0°C / W
$T_J, T_{STG}$	Operating Junction and Storage Temperature Range		-55 to 150°C
$T_L$	Lead Temperature (1.6mm from case for 10s)		300°C

1) Repetitive Rating: Pulse width limited by Max. Junction Temperature.

2)  $I_{SD} \leq 35A, di/dt \leq 230A / \mu S, V_{DD} \leq BV_{DSS}, T_J \leq 150^\circ C$

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_J = 25^\circ\text{C}$ unless otherwise stated)						
Parameter	Test Conditions	Min.	Typ.	Max.	Unit	
<b>STATIC ELECTRICAL RATINGS</b>						
$BV_{DSS}$	Drain – Source Breakdown Voltage	$V_{GS} = 0$ $I_D = 250\mu\text{A}$	55			V
$\frac{\Delta BV_{DSS}}{\Delta T_J}$	Temperature Coefficient of Breakdown Voltage	Reference to $25^\circ\text{C}$ $I_D = 1\text{mA}$		0.056		V/ $^\circ\text{C}$
$R_{DS(on)}$	Static Drain – Source On–State Resistance <sup>2</sup>	$V_{GS} = 10\text{V}$ $I_D = 35\text{A}$			0.015	$\Omega$
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$ $I_D = 250\mu\text{A}$	2		4	V
$g_{fs}$	Forward Transconductance <sup>2</sup>	$V_{DS} \geq 15\text{V}$ $I_{DS} = 35\text{A}$	34			S( $\bar{r}$ )
$I_{DSS}$	Zero Gate Voltage Drain Current	$V_{DS} = 55\text{V}$ $V_{GS} = 0$			25	$\mu\text{A}$
		$V_{DS} = 44\text{V}$ $T_J = 125^\circ\text{C}$			250	
$I_{GSS}$	Forward Gate – Source Leakage	$V_{GS} = 20\text{V}$			100	nA
$I_{GSS}$	Reverse Gate – Source Leakage	$V_{GS} = -20\text{V}$			-100	
<b>DYNAMIC CHARACTERISTICS</b>						
$C_{iss}$	Input Capacitance	$V_{GS} = 0$		3600		pF
$C_{oss}$	Output Capacitance	$V_{DS} = 25\text{V}$		1200		
$C_{rss}$	Reverse Transfer Capacitance	$f = 1\text{MHz}$		445		
$Q_g$	Total Gate Charge	$V_{GS} = 10\text{V}$			170	nC
$Q_{gs}$	Gate – Source Charge	$I_D = 35\text{A}$			32	
$Q_{gd}$	Gate – Drain (“Miller”) Charge	$V_{DS} = 44\text{V}$			74	
$t_{d(on)}$	Turn– On Delay Time	$V_{DD} = 28\text{V}$			22	ns
$t_r$	Rise Time	$I_D = 35\text{A}$			80	
$t_{d(off)}$	Turn–Off Delay Time	$R_G = 2.5\Omega$			70	
$t_f$	Fall Time	$V_{GS} = 10\text{V}$			55	
<b>SOURCE – DRAIN DIODE CHARACTERISTICS</b>						
$I_S$	Continuous Source Current (Body)				35	A
$I_{SM}$	Pulse Source Current <sup>1</sup>				140	
$V_{SD}$	Diode Forward Voltage	$I_S = 35\text{A}$ $V_{GS} = 0$			1.3	V
$t_{rr}$	Reverse Recovery Time <sup>3</sup>	$I_F = 35\text{A}$ $T_J = 25^\circ\text{C}$			130	ns
$Q_{rr}$	Reverse Recovery Charge <sup>3</sup>	$d_i / d_t \leq 100\text{A}/\mu\text{s}$ $V_{DD} \leq 25\text{V}$			410	nC
$t_{on}$	Forward Turn–On Time			Negligible		