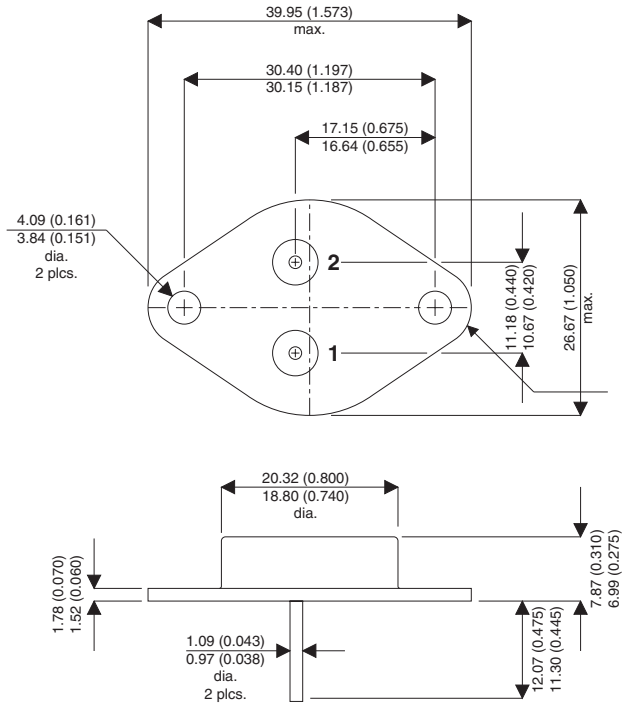
IRF350
2N6768

MECHANICAL DATA
Dimensions in mm (inches)



TO–3 (TO-204AA) Metal Package

Pin 1 – Source Pin 2 – Gate Case – Drain

N-CHANNEL POWER MOSFET

V_{DSS}	400V
$I_{D(cont)}$	14A
$R_{DS(on)}$	0.300Ω

FEATURES

- **REPETITIVE AVALANCHE RATINGS**
- **DYNAMIC DV/DT RATING**
- **HERMETICALL SEALED**
- **SIMPLE DRIVE REQUIREMENTS**
- **EASE OF PARALLELING**

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C unless otherwise stated)

V_{GS}	Gate – Source Voltage		±20V
I_D	Continuous Drain Current	(V_{GS} = 0 , T_{case} = 25°C)	14A
		(V_{GS} = 0 , T_{case} = 100°C)	9.0A
I_{DM}	Pulsed Drain Current [1]		56A
P_D	Power Dissipation @ T_{case} = 25°C		150W
	Linear Derating Factor		1.2W/°C
E_{AS}	Single Pulse Avalanche Energy [3]		11.3mJ
I_{AR}	Avalanche Current [1]		14A
E_{AR}	Repetitive Avalanche Energy [1]		15mJ
dv/dt	Peak Diode Recovery [4]		4.0V/ns
T_J , T_{stg}	Operating and Storage Temperature Range		-55 to +150°C

Notes

1) Pulse Width ≤ 300µs, Duty Cycle ≤ 2%
2) Repetitive Rating – Pulse width limited by maximum junction temperature.
3) V_{DD} = 50V ,Peak I_L = 14A , Starting T_J = 25°C
4) I_{SD} ≤ 14A , di/dt ≤ 145A/µs , V_{DD} ≤ 400V, T_J ≤ 150°C , Suggested R_G = 2.35Ω

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SEME LAB

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ELECTRICAL CHARACTERISTICS (T_{case} = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
	STATIC ELECTRICAL RATINGS						
BV_{DSS}	Drain – Source Breakdown Voltage	V_{GS} = 0V	I_D = 1mA	400			V
$\frac{\Delta BV_{DSS}}{\Delta T_J}$	Temperature Coefficient of Breakdown Voltage	Reference to 25°C I_D = 1mA			0.46		V/°C
$R_{DS(on)}$	Static Drain – Source On–State Resistance	V_{GS} = 10V	I_D = 9.0A			0.300	Ω
		V_{GS} = 10V	I_D = 14A			0.400	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}$	I_D = 250µA	2.0		4.0	V
g_{fs}	Forward Transconductance	$V_{DS} \geq 15V$	I_{DS} = 9.0A	6.0			S (℧)
I_{DSS}	Zero Gate Voltage Drain Current	V_{GS} = 0V	V_{DS} = 320V			25	µA
			T_J = 125°C			250	
I_{GSS}	Gate – Source Leakage Forward	V_{GS} = +20V				+100	nA
I_{GSS}	Gate – Source Leakage Reverse	V_{GS} = –20V				–100	
	DYNAMIC CHARACTERISTICS						
C_{iss}	Input Capacitance	V_{GS} = 0V			2660		pF
C_{oss}	Output Capacitance	V_{DS} = 25V			680		
C_{rss}	Reverse Transfer Capacitance	f = 1MHz			250		
Q_g	Total Gate Charge	V_{GS} = 10V		52		110	nC
Q_{gs}	Gate – Source Charge	I_D = 14A		5.0		18	
Q_{gd}	Gate – Drain (“Miller”) Charge	V_{DS} = 200V		25		65	
$t_{d(on)}$	Turn–On Delay Time	V_{DD} = 200V				35	ns
t_r	Rise Time	I_D = 14A				190	
$t_{d(off)}$	Turn–Off Delay Time	R_G = 2.35Ω				170	
t_f	Fall Time					130	
	SOURCE – DRAIN DIODE CHARACTERISTICS						
I_S	Continuous Source Current					14	A
I_{SM}	Pulse Source Current [2]					56	
V_{SD}	Diode Forward Voltage [1]	I_S = 28A V_{GS} = 0	T_J = 25°C			1.7	V
t_{rr}	Reverse Recovery Time	I_F = 28A	T_J = 25°C			1200	ns
Q_{rr}	Reverse Recovery Charge [1]	$d_i / d_t \leq 100A/\mu s$	$V_{DD} \leq 50V$			250	µC
t_{on}	Forward Turn–On Time				Negligible		
	PACKAGE CHARACTERISTICS						
$L_D + L_S$	Total Inductance (measured from the centre of drain pad to center of source pad)				6.1		nH
	THERMAL CHARACTERISTICS						
R_{thJC}	Thermal Resistance Junction – Case					0.83	°C/W
R_{thJA}	Thermal Resistance Junction – Ambient (Typical socket mount)					30	

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