

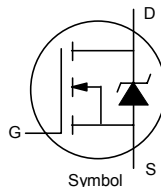
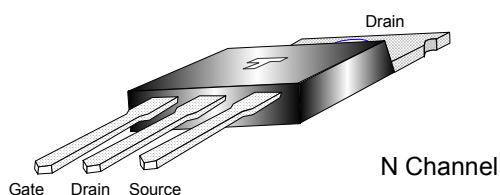


Transys
Electronics
LIMITED

IRFZ44N

Power MOSFET

$V_{DS} = 55V$, $R_{DS(on)} = 17.5 \text{ mohm}$, $I_D = 49 \text{ A}$



ELECTRICAL CHARACTERISTICS at $T_j = 25^\circ\text{C}$ Maximum. Unless stated Otherwise						
Parameter	Symbol	Test Conditions	Value			Unit
			Min	Typ	Max	
Drain to Source Breakdown Voltage	$V_{BR(DSS)}$	$V_{GS} = 0 \text{ V}_{DC}$, $I_D = 250\mu\text{A}$	55	-	-	Volt
Drain to Source Leakage Current	I_{DSS}	$V_{DS} = 55\text{V}_{DC}$, $V_{GS} = 0\text{V}_{DC}$	-	-	25	μA
		$V_{DS} = 44\text{V}_{DC}$, $V_{GS} = 0\text{V}_{DC}$	-	-	250	
Gate to Source Leakage Current	I_{GSS}	$V_{GS} = +20\text{V}_{DC}$	-	-	100	nA
		$V_{GS} = -20\text{V}_{DC}$	-	-	-100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}$, $I_D = 250\mu\text{A}$	2.0	-	4.0	Volt
Static Drain to Source On - Resistance	$R_{DS(on)}$	$V_{GS} = 10\text{V}_{DC}$, $I_D = 10\text{A}$	-	-	0.07	Ω
Gate Charge	Q_G	$I_D = 25\text{A}$	-	-	63	nC
Gate to Source Charge	Q_{GS}	$V_{DS} = 44\text{V}_{DC}$, $V_{GS} = 10\text{V}_{DC}$	-	-	14	nC
Gate to Drain Charge	Q_{GD}		-	-	23	nC
Input Capacitance	C_{ISS}	$V_{DS} = 25\text{V}_{DC}$, $V_{GS} = 0\text{V}_{DC}$, $f = 1.0\text{MHz}$	-	1470	-	pF
Output Capacitance	C_{OSS}		-	360	-	pF
Transfer Capacitance	C_{RSS}		-	88	-	pF
Turn On Delay Time	$t_{d(on)}$	$V_{DD} = 28\text{V}_{DC}$, $I_D = 25\text{A}$, $R_G = 12\Omega$	-	12	-	nS
Turn Off Delay Time	$t_{d(off)}$		-	44	-	nS
Rise Time	t_r		-	60	-	nS
Fall Time	t_f		-	45	-	nS
Continuous Source Current	I_S			-	-	49
Pulsed Source Current	I_{SM}		-	-	160	A
Forward Voltage (Diode)	V_{SD}	$V_{GS} = 0\text{V}_{DC}$, $I_S = 25\text{A}$, $T_p = 300\mu\text{S}$	-	-	1.3	V
Single Pulse Avalanche Energy	E_{AS}				148	mJ
Repetitive Avalanche Energy	E_{AR}				9.4	mJ
Avalanche Current	I_{AR}				25	A

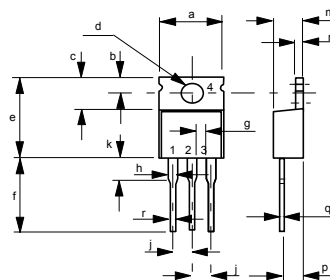
MAXIMUM RATINGS ($T_j = 25^\circ\text{C}$ unless stated otherwise)				
Parameter	Symbol	Condition	Value	Unit
Gate to Source Voltage	V_{GS}		+/- 20V	Volt
Drain to Source Voltage	V_{DSS}		55	Volt
Continuous Drain Current	I_D		49	Amp
Pulsed Drain Current	I_{DM}	-	160	Amp
Total Power Dissipation	P_D	($T_A = 25^\circ\text{C}$)	94	W
Thermal Resistance (Junction to Ambient)	$R_{TH(j-A)}$		62	$^\circ\text{C/W}$

Maximum Operating Temperature Range (T_j) -55 to +175 $^\circ\text{C}$
Maximum Storage Temperature Range (T_{stg}) -55 to +175 $^\circ\text{C}$

Mechanical Dimensions

Case TO-220-AB Plastic

Dim	Millimetres		Inches	
	Min	Max	Min	Max
a	10.29	10.54	0.405	0.415
b	2.62	2.87	0.103	0.113
c	6.10	6.47	0.240	0.255
d	3.54	3.78	0.139	0.149
e	14.84	15.24	0.584	0.600
f	13.47	14.09	0.530	0.555
g	1.15		0.045	
h	1.15	1.400	0.045	0.055
j		2.54		0.100
k	3.550	4.06	0.140	0.160
m	4.20	4.69	0.165	0.185
n	1.22	1.32	0.048	0.052
p	2.64	2.92	0.104	0.115
q	0.48	0.55	0.018	0.022
r	0.69	0.93	0.027	0.037



1 - Gate
2 & 4 - Drain
3 - Source