

isc N-Channel MOSFET Transistor

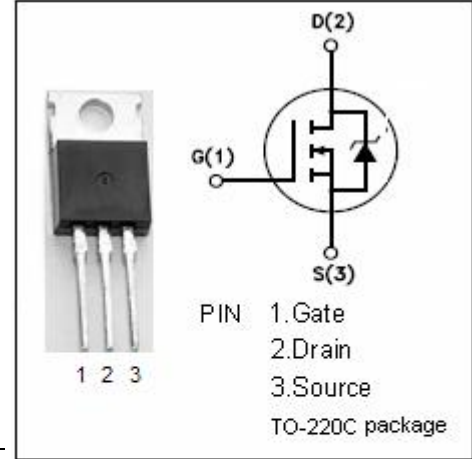
5N90

• DESCRIPTION

- Drain Current $I_D = 5A @ T_C = 25^\circ C$
- Drain Source Voltage-
: $V_{DSS} = 900V(\text{Min})$
- Fast Switching Speed

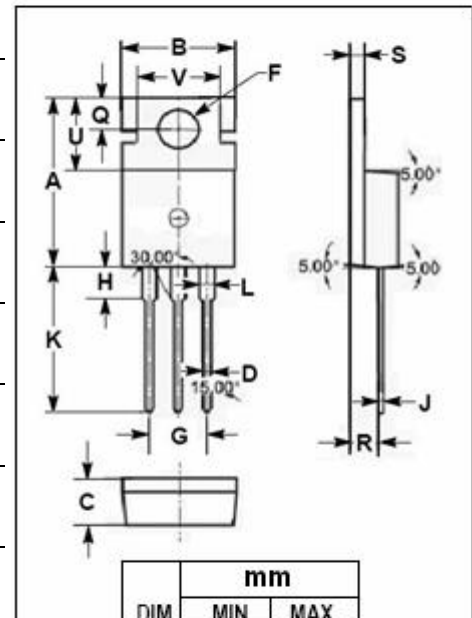
• APPLICATIONS

- General purpose power amplifier



ABSOLUTE MAXIMUM RATINGS($T_C = 25^\circ C$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DSS}	Drain-Source Voltage ($V_{GS} = 0$)	900	V
V_{GS}	Gate-Source Voltage	± 30	V
I_D	Drain Current-continuous@ $T_C = 25^\circ C$	5	A
$I_{D(puls)}$	Pulse Drain Current	12	A
P_{tot}	Total Dissipation@ $T_C = 25^\circ C$	125	W
T_j	Max. Operating Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature Range	-55~150	$^\circ C$



• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th j-c}$	Thermal Resistance, Junction to Case	0.96	$^\circ C/W$
$R_{th j-a}$	Thermal Resistance, Junction to Ambient	62.5	$^\circ C/W$

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• ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNIT
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0; I_D=250\mu\text{A}$	900			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=250\mu\text{A}$	2.0		4.0	V
V_{SD}	Diode Forward On-Voltage	$I_S=5\text{A}; V_{GS}=0$			1.4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10\text{V}; I_D=2.5\text{A}$			2.8	Ω
I_{GSS}	Gate-Body Leakage Current	$V_{GS}= \pm 30\text{V}; V_{DS}=0$			± 100	nA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=900\text{V}; V_{GS}=0$			10	μA
C_{iss}	Input Capacitance	$V_{DS}=25\text{V};$ $V_{GS}=0\text{V};$ $f_T=1\text{MHz}$		1200	1550	pF
C_{rss}	Reverse Transfer Capacitance			13	17	
C_{oss}	Output Capacitance			110	145	
t_r	Rise Time	$V_{GS}=10\text{V};$ $I_D=5\text{A};$ $V_{DD}=450\text{V};$ $R_G=25\Omega$		65	140	ns
$t_{d(on)}$	Turn-on Delay Time			28	65	
t_f	Fall Time			50	110	
$t_{d(off)}$	Turn-off Delay Time			65	140	