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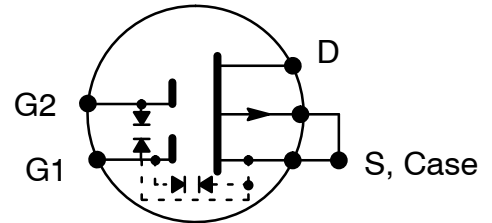
## NTE455 N-Channel Silicon Dual-Gate MOS Field Effect Transistor (MOSFET)

**Description:**

The NTE455 is an N-Channel silicon dual-gate MOSFET designed for use as an RF amplifier in UHF TV tuners. This device is especially recommended for use in half wave length resonator type tuners.

**Features:**

- Low Reverse Transfer Capacitance:  $C_{rss} = 0.02\text{pF Typ}$
- High Power Gain:  $G_{ps} = 18\text{dB Typ}$
- Low Noise Figure:  $NF = 3.8\text{dB Typ}$



**Absolute Maximum Ratings:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Drain-Source Voltage, $V_{DSX}$ .....	20V
Gate1-Source Voltage, $V_{G1S}$ .....	$\pm 10\text{V}$
Gate2-Source Voltage, $V_{G2S}$ .....	$\pm 10\text{V}$
Drain Current, $I_D$ .....	25mA
Total Power Dissipation, $P_D$ .....	200mW
Maximum Channel Temperature, $T_{ch}$ .....	$+125^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ to $+125^\circ\text{C}$

**Electrical Characteristics:** ( $T_A = +25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 10\text{V}, V_{G2S} = 4\text{V}, V_{G1S} = 0$	0.5	-	20	mA
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10\text{V}, V_{G2S} = 4\text{V}, I_D = 10\text{mA}, f = 1\text{kHz}$	18	22	-	ms
Input Capacitance	$C_{iss}$	$V_{DS} = 10\text{V}, V_{G2S} = 4\text{V}, I_D = 10\text{mA}, f = 1\text{MHz}$	1.5	2.0	3.5	pF
Output Capacitance	$C_{oss}$	$V_{DS} = 10\text{V}, V_{G2S} = 4\text{V}, I_D = 10\text{mA}, f = 1\text{MHz}$	0.5	1.1	1.5	pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS} = 10\text{V}, V_{G2S} = 4\text{V}, I_D = 10\text{mA}, f = 1\text{MHz}$	-	0.02	0.03	pF
Power Gain	$G_{ps}$	$V_{DS} = 10\text{V}, V_{G2S} = 4\text{V}, I_D = 10\text{mA}, f = 900\text{MHz}$	15	18	22	dB
Noise Figure	NF	$V_{DS} = 10\text{V}, V_{G2S} = 4\text{V}, I_D = 10\text{mA}, f = 900\text{MHz}$	-	3.8	5.5	dB
Gate-Source Cutoff Voltage	$V_{G1S(off)}$	$V_{DS} = 10\text{V}, V_{G2S} = 4\text{V}, I_D = 10\mu\text{A}$	-	-	2.0	V
	$V_{G2S(off)}$		-	-	-0.7	V
Gate Reverse Current	$I_{G1SS}$	$V_{DS} = 0, V_{G1S} = \pm 10\text{V}, V_{G2S} = 0$	-	-	$\pm 20$	nA
	$I_{G2SS}$	$V_{DS} = 0, V_{G2S} = \pm 10\text{V}, V_{G1S} = 0$	-	-	$\pm 20$	nA
Drain-Source Breakdown Voltage	$BV_{DSX}$	$V_{G1S} = V_{G2S} = -2\text{V}, I_D = 10\mu\text{A}$	20	24	-	V

