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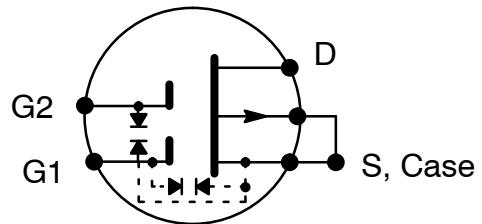
## NTE455 N-Channel Silicon Dual-Gate MOS Field Effect Transistor (MOSFET)

### 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

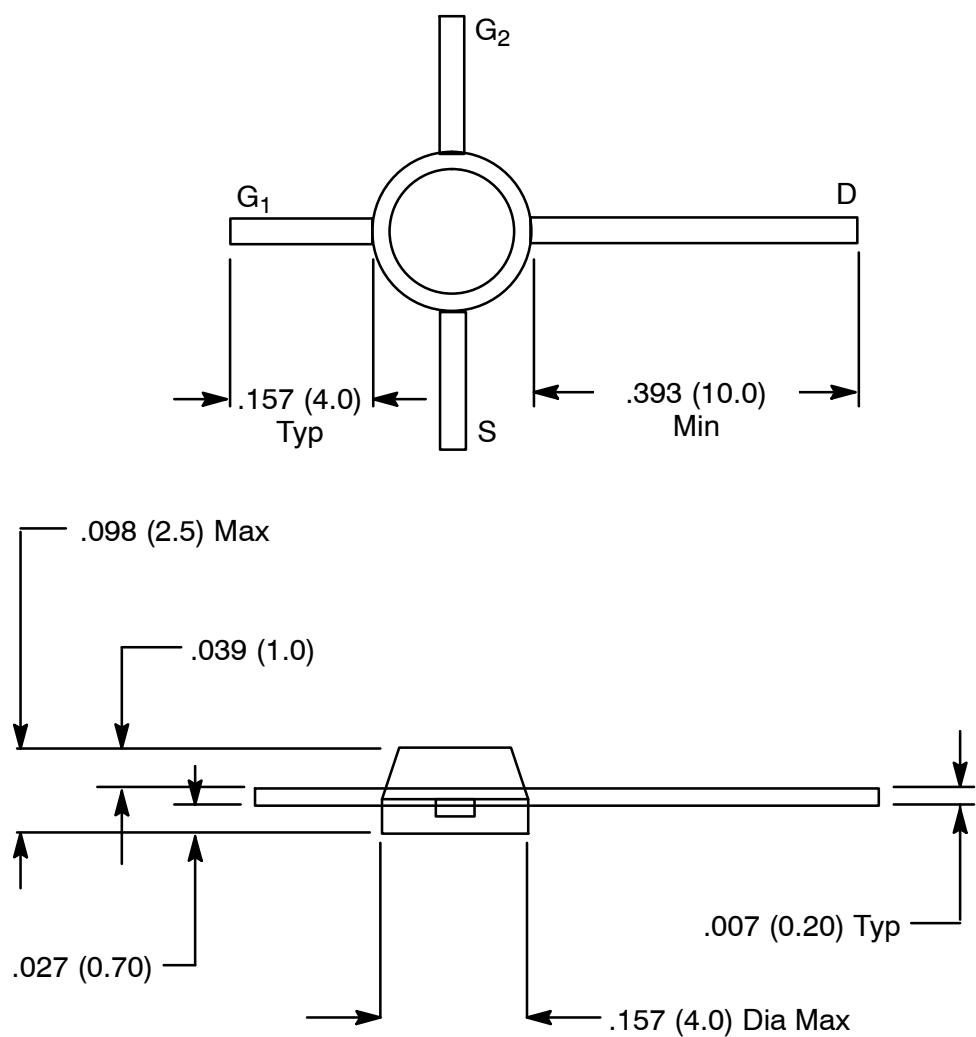


### Absolute Maximum Ratings: ( $T_A = +25^\circ\text{C}$ unless otherwise specified)

Drain-Source Voltage, $V_{DSX}$	.....	20V
Gate1-Source Voltage, $V_{G1S}$	.....	$\mu 10\text{V}$
Gate2-Source Voltage, $V_{G2S}$	.....	$\mu 10\text{V}$
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 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	—	8.0	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	$I_{G1SS}$	$V_{DS} = 0$ , $V_{G1S} = \mu 10\text{V}$ , $V_{G2S} = 0$	—	—	$\mu 20$	nA
	$I_{G2SS}$	$V_{DS} = 0$ , $V_{G2S} = \mu 10\text{V}$ , $V_{G1S} = 0$	—	—	$\mu 20$	nA
Drain-Source Breakdown Voltage	$BV_{DSX}$	$V_{G1S} = V_{G2S} = -2\text{V}$ , $I_D = 10\mu\text{A}$	20	24	—	V



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