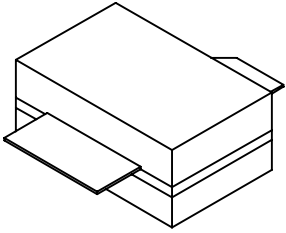


# 0809LD30P

## 30 WATT, 28V, 1 GHz

### LDMOS FET

## PRELIMINARY ISSUE

<p><b>GENERAL DESCRIPTION</b></p> <p>The <b>0809LD30P</b> is a common source N-Channel enhancement mode lateral MOSFET capable of providing 30 Watts of RF power from HF to 1 GHz. The device is nitride passivated and utilizes gold metallization to ensure high reliability and supreme ruggedness.</p>	<p><b>CASE OUTLINE</b> <b>55QU</b> <b>Common Source</b></p> 
<p><b>ABSOLUTE MAXIMUM RATINGS</b></p> <p><b>Power Dissipation</b></p> <p>Device Dissipation @25°C (<math>P_d</math>)                      110 W Thermal Resistance (<math>\theta_{JC}</math>)                                1.5°C/W</p> <p><b>Voltage and Current</b></p> <p>Drain-Source (<math>V_{DSS}</math>)                                        65V Gate-Source (<math>V_{GS}</math>)                                        ±20V</p> <p><b>Temperatures</b></p> <p>Storage Temperature                                        -65 to +200°C Operating Junction Temperature                        +200°C</p>	

### ELECTRICAL CHARACTERISTICS @ 25°C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$BV_{dss}$	Drain-Source Breakdown	$V_{gs} = 0V, I_d = 2ma$	65	70		V
$I_{dss}$	Drain-Source Leakage Current	$V_{ds} = 28V, V_{gs} = 0V$			1	$\mu A$
$I_{gss}$	Gate-Source Leakage Current	$V_{gs} = 20V, V_{ds} = 0V$			1	$\mu A$
$V_{gs(th)}$	Gate Threshold Voltage	$V_{ds} = 10V, I_d = 10ma$	2	4	5	V
$V_{ds(on)}$	Drain-Source On Voltage	$V_{gs} = 10V, I_d = 2A$		1.0		V
$g_{FS}$	Forward Transconductance	$V_{ds} = 10V, I_d = 3A$		1.4		S
$C_{iss}$	Input Capacitance	$V_{ds} = 28V, V_{gs} = 0V, F = 1 MHz$		60		pF
$C_{rss}$	Reverse Transfer Capacitance	$V_{ds} = 28V, V_{gs} = 0V, F = 1 MHz$		2.5		pF
$C_{oss}$	Output Capacitance	$V_{ds} = 28V, V_{gs} = 0V, F = 1 MHz$		32		pF

### FUNCTIONAL CHARACTERISTICS @ 25°C

$G_{PS}$	Common Source Power Gain	$V_{ds} = 28V, I_{dq} = 0.15A,$ $F = 900MHz, P_{out} = 30W$		14		dB
$\eta_d$	Drain Efficiency	$V_{ds} = 28V, I_{dq} = 0.15A,$ $F = 900MHz, P_{out} = 30W$		50		%
$IMD_3$	Intermodulation Distortion, 3 <sup>rd</sup> Order	$V_{ds} = 28V, I_{dq} = 0.3A,$ $P_{out} = 30W_{PEP}, F_1 = 900 MHz,$ $F_2 = 900.1 MHz$		-30		dBc
$\Psi$	Load Mismatch	$V_{ds} = 28V, I_{dq} = 0.15A,$ $F = 900MHz, P_{out} = 30W$			10:1	