

# 0809LD60P

## 60 WATT, 28V, 1 GHz LDMOS FET

## PRELIMINARY ISSUE

## **GENERAL DESCRIPTION**

The **0809LD60P** is a common source N-Channel enhancement mode lateral MOSFET capable of providing 60 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.

## CASE OUTLINE 55QU Common Source

## **ABSOLUTE MAXIMUM RATINGS**

#### **Power Dissipation**

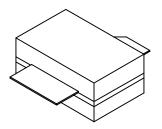
 $\begin{array}{lll} \mbox{Device Dissipation @25^{\circ}C \ (P_d)} & 170 \ W \\ \mbox{Thermal Resistance } (\theta_{JC}) & 1.0^{\circ}C/W \end{array}$ 

#### **Voltage and Current**

 $\begin{array}{ll} \text{Drain-Source (V}_{DSS}) & 65 \text{V} \\ \text{Gate-Source (V}_{GS}) & \pm 20 \text{V} \end{array}$ 

#### **Temperatures**

Storage Temperature -65 to +200°C Operating Junction Temperature +200°C



#### **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	μA
$I_{gss}$	Gate-Source Leakage Current	$V_{gs} = 20V, V_{ds} = 0V$			1	μA
$V_{gs(th)}$	Gate Threshold Voltage	$V_{ds} = 10V, I_d = 100ma$	2	4	5	V
$V_{ds(on)}$	Drain-Source On Voltage	$V_{gs} = 10V$ , $I_d = 3A$		0.7		V
$g_{FS}$	Forward Transconductance	$V_{ds} = 10V$ , $I_d = 3A$		2.2		S
$C_{iss}$	Input Capacitance	$V_{ds} = 28V, V_{gs} = 0V, F = 1 MHz$		90		pF
C <sub>rss</sub>	Reverse Transfer Capacitance	$V_{ds} = 28V, V_{gs} = 0V, F = 1 MHz$		5		pF
$C_{oss}$	Output Capacitance	$V_{ds} = 28V, V_{gs} = 0V, F = 1 MHz$		60		pF

#### **FUNCTIONAL CHARACTERISTICS @ 25°C**

$G_{PS}$	Common Source Power Gain	$V_{ds} = 28V, I_{dq} = 0.3A,$ $F = 900MHz, P_{out} = 60W$	14		dB
$\eta_{ m d}$	Drain Efficiency	$V_{ds} = 28V, I_{dq} = 0.3A,$	50		%
		$F = 900MHz, P_{out} = 60W$			
$IMD_3$	Intermodulation Distortion,	$V_{ds} = 28V, I_{dq} = 0.3A,$	-30		dBc
	3 <sup>rd</sup> Order	$P_{out} = 60 \text{WPEP}, F_1 = 900 \text{ MHz},$			
		$F_2 = 900.1 \text{ MHz}$			
Ψ	Load Mismatch	$V_{ds} = 28V, I_{dq} = 0.3A,$		10:1	
		$F = 900MHz, P_{out} = 60W$			

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