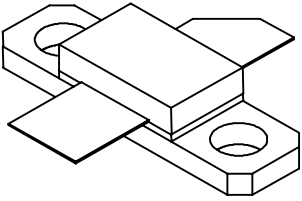


0809LD30

30 WATT, 28V, 1 GHz

LDMOS FET

PRELIMINARY ISSUE

<p>GENERAL DESCRIPTION</p> <p>The 0809LD30 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>CASE OUTLINE 55QT Common Source</p> 												
<p>ABSOLUTE MAXIMUM RATINGS</p> <p>Power Dissipation</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Device Dissipation @25°C (P_d)</td> <td style="text-align: right;">110 W</td> </tr> <tr> <td>Thermal Resistance (θ_{JC})</td> <td style="text-align: right;">1.6°C/W</td> </tr> </table> <p>Voltage and Current</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Drain-Source (V_{DSS})</td> <td style="text-align: right;">65V</td> </tr> <tr> <td>Gate-Source (V_{GS})</td> <td style="text-align: right;">±20V</td> </tr> </table> <p>Temperatures</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Storage Temperature</td> <td style="text-align: right;">-65 to +200°C</td> </tr> <tr> <td>Operating Junction Temperature</td> <td style="text-align: right;">+200°C</td> </tr> </table>	Device Dissipation @25°C (P _d)	110 W	Thermal Resistance (θ _{JC})	1.6°C/W	Drain-Source (V _{DSS})	65V	Gate-Source (V _{GS})	±20V	Storage Temperature	-65 to +200°C	Operating Junction Temperature	+200°C	
Device Dissipation @25°C (P _d)	110 W												
Thermal Resistance (θ _{JC})	1.6°C/W												
Drain-Source (V _{DSS})	65V												
Gate-Source (V _{GS})	±20V												
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 = 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
η _d	Drain Efficiency	V _{ds} = 28V, I _{dq} = 0.15A, F = 900MHz, P _{out} = 30W		50		%
IMD ₃	Intermodulation Distortion, 3 rd Order	V _{ds} = 28V, I _{dq} = 0.3A, P _{out} = 30WPEP, F ₁ = 900 MHz, F ₂ = 900.1 MHz		-30		dBc
Ψ	Load Mismatch	V _{ds} = 28V, I _{dq} = 0.15A, F = 900MHz, P _{out} = 30W			10:1	