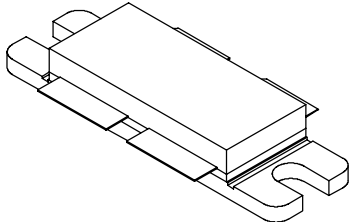


0809LD120

120 WATT, 28V, 1 GHz

LDMOS FET

PRELIMINARY ISSUE

<p>GENERAL DESCRIPTION</p> <p>The 0809LD120 is a common source N-Channel enhancement mode lateral MOSFET capable of providing 120 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 55QV Common Source</p> 
<p>ABSOLUTE MAXIMUM RATINGS</p> <p>Power Dissipation</p> <p>Device Dissipation @25°C (P_d) 300 W</p> <p>Thermal Resistance (θ_{JC}) .6°C/W</p> <p>Voltage and Current</p> <p>Drain-Source (V_{DSS}) 65V</p> <p>Gate-Source (V_{GS}) ±20V</p> <p>Temperatures</p> <p>Storage Temperature -65 to +200°C</p> <p>Operating Junction Temperature +200°C</p>	

ELECTRICAL CHARACTERISTICS @ 25°C PER SIDE

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_{rss}	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

This part is input matched.

FUNCTIONAL CHARACTERISTICS @ 25°C

G_{PS}	Common Source Power Gain	$V_{ds} = 28V, I_{dq} = 0.6A,$ $F = 900MHz, P_{out} = 120W$		13		dB
η_d	Drain Efficiency	$V_{ds} = 28V, I_{dq} = 0.6A,$ $F = 900MHz, P_{out} = 120W$		50		%
IMD_3	Intermodulation Distortion, 3 rd Order	$V_{ds} = 28V, I_{dq} = 0.6A,$ $P_{out}=120W PEP, F_1 = 900 MHz,$ $F_2 = 900.1 MHz$		-30		dBc
Ψ	Load Mismatch	$V_{ds} = 28V, I_{dq} = 0.6A,$ $F = 900MHz, P_{out} = 120W$			5:1	