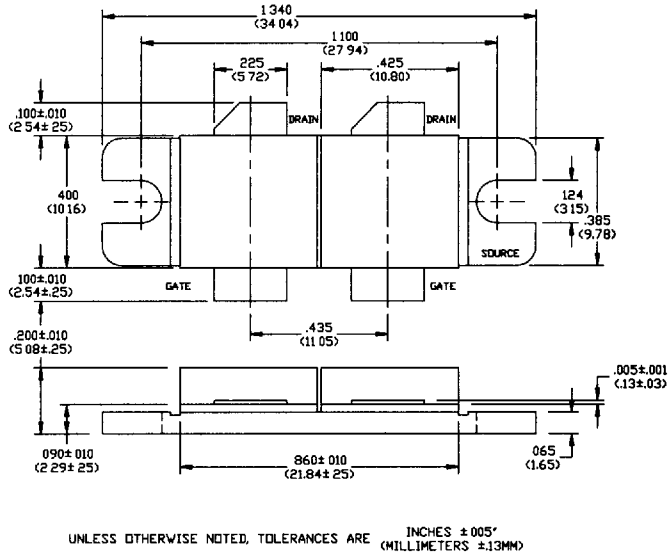
MOSFET Power Transistor CR26120D

Preliminary
120 Watts, 850 - 960 MHz

Features

- N-Channel Enhancement Mode Device
- Cellular Base Station Applications
- 120 Watts CW
- Common Source Gemini Configuration
- RESFET Structure
- Internal Input Impedance Matching
- Class AB Linear Operation
- Gold Metallization

Outline Drawing



UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES ±.005" (MILLIMETERS ±.13MM)

Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	55	V
Gate-Source Voltage	V_{GS}	20	V
Drain-Source Current	I_{DS}	10	A
Power Dissipation	P_D	290	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-55 to +150	°C
Thermal Resistance	θ_{JC}	0.6	°C/W

Electrical Characteristics at 25°C (* per side)

Parameter	Symbol	Min	Max	Units	Test Conditions
Drain-Source Breakdown Voltage	BV_{DSS}	48	-	V	I_D=60 mA, V_{GS}=0.0 V*
Drain-Source Leakage Current	I_{DSS}	-	6.0	mA	V_{DS}=24.0 V, V_{GS}=0.0 V*
Gate-Source Leakage Current	I_{GSS}	-	3.0	µA	V_{GS}=20.0 V, V_{DS}=0.0 V*
Gate Threshold Voltage	$V_{GS(TH)}$	2.0	6.0	V	V_{DS}=10.0 V, I_{DS}=300 mA*
Forward Transconductance	G_M	0.5	-	S	V_{DS}=10.0 V, I_{DS}=3000 mA (pulsed)*
Input Capacitance	C_{ISS}		100	pF	V_{DS}=24.0 V, F=1.0 MHz (Reference Only)*
Output Capacitance	C_{OSS}		30	pF	V_{DS}=24.0 V, F=1.0 MHz*
Reverse Capacitance	C_{RSS}		10	pF	V_{DS}=24.0 V, F=1.0 MHz*
Power Gain	G_P	10	-	dB	V_{DD}=26.0 V, I_{DQ}=600 mA, P_{OUT}=120 W, F=900 MHz
Drain Efficiency	η_D	50	-	%	V_{DD}=26.0 V, I_{DQ}=600 mA, P_{OUT}=120 W, F=900 MHz
Load Mismatch Tolerance	VSWR-T	-	3.0:1	-	V_{DD}=26.0 V, I_{DQ}=600 mA, P_{OUT}=120 W, F=900 MHz