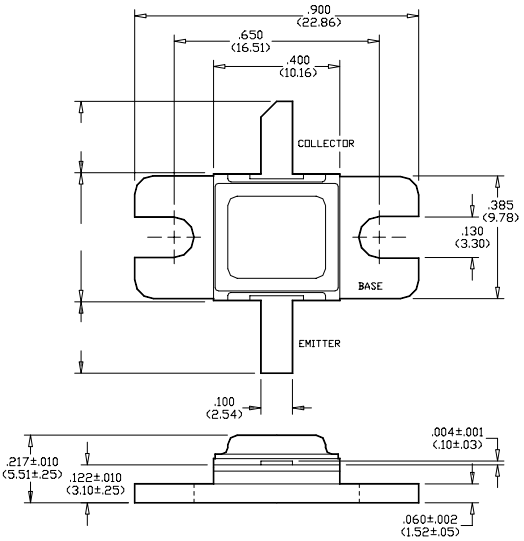
M/A-COM PHI, INC.

PH1090-75L
AVIONICS PULSED POWER TRANSISTOR
75 WATTS, 1030 - 1090 MHz, 250μs PULSE, 10% DUTY

FEATURES

- Designed for Pulsed Avionics Applications
- NPN Silicon Microwave Power Transistor
- Common Base Configuration
- Broadband Class C Operation
- Diffused Emitter Ballasting Resistors
- Gold Metalization System
- Internal Input and Output Impedance Matching
- Hermetic Metal/Ceramic Package

OUTLINE DRAWING



ABSOLUTE MAXIMUM RATINGS AT 25°C

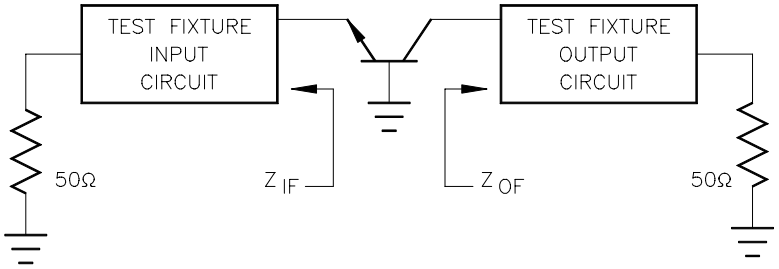
Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CES}	70	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current (Peak)	I_C	6	A
Total Power Dissipation	P_D	160	W
Storage Temperature	T_{STG}	-65 to +200	°C
Junction Temperature	T_J	200	°C

ELECTRICAL CHARACTERISTICS AT 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	70	-	V	I_C=35mA
Collector-Emitter Leakage Current	I_{CES}	-	3.5	mA	V_{CE}=40V
Thermal Resistance	$R_{TH(JC)}$	-	1.5	°C/W	V_{CC}=45 V, P_{out}=75 W, F=1.03 1.09 GHz
Output Power	P_{OUT}	75	-	W	V_{CC}=45 V, P_{in}=9 W, F=1.03, 1.09 GHz
Power Gain	G_P	9	-	dB	V_{CC}=45 V, P_{out}=75 W, F=1.03, 1.09 GHz
Collector Efficiency	η_C	45	-	%	V_{CC}=45 V, P_{out}=75 W, F=1.03, 1.09 GHz
Input Return Loss	RL	8	-	dB	V_{CC}=45 V, P_{out}=75 W, F=1.03, 1.09 GHz
Load Mismatch Tolerance	VSWR-T	-	3:1	-	V_{CC}=45 V, P_{out}=75 W, F=1.03, 1.09 GHz
Load Mismatch Stability	VSWR-S	-	1.5:1	-	V_{CC}=45 V, P_{out}=75 W, F=1.03, 1.09 GHz

BROADBAND TEST FIXTURE IMPEDANCE

F (MHz)	Z_{IF} (Ω)	Z_{OF} (Ω)
1030	2.6 - j6	9.4 + j2
1090	2.3 - j5.6	11 + j0.2



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