

MAPRST2729-170M

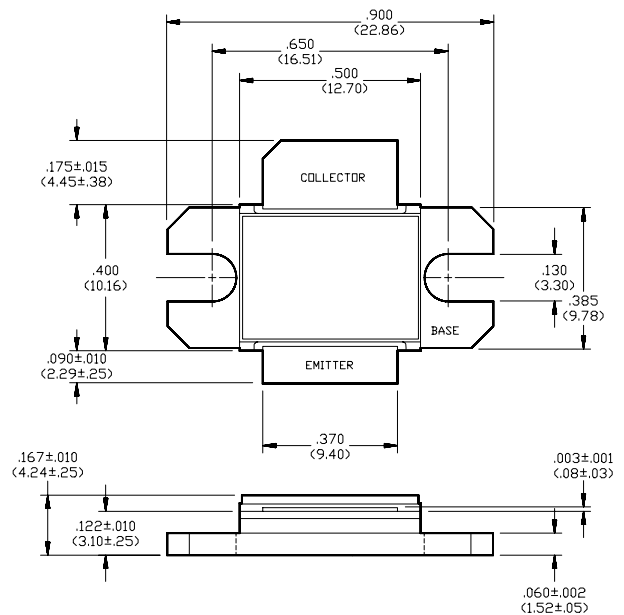
RADAR PULSED POWER TRANSISTOR

170 Wpk, 2700 - 2900 MHz, 100µs Pulse Width, 10% Duty Cycle

FEATURES

- Designed for ATC Radar Applications
- NPN Silicon Microwave Power Transistor
- Common Base Configuration
- Broadband Class C Operation
- High Efficiency Interdigitated Geometry
- Diffused Emitter Ballasting Resistors
- Gold Metallization System
- Internal Input and Output Impedance Matching
- Hermetic Metal/Ceramic Package

OUTLINE DRAWING



ABSOLUTE MAXIMUM RATINGS AT 25°C

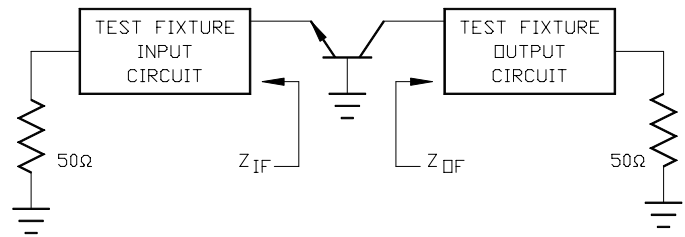
Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CES}	65	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current (Peak)	I_C	27	A
Power Dissipation @ +25°C	P_D	TBD	W
Storage Temperature	T_{STG}	-65 to +200	°C
Junction Temperature	T_J	200	°C

ELECTRICAL CHARACTERISTICS AT 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	65	-	V	$I_C=50\text{mA}$
Collector-Emitter Leakage Current	I_{CES}	-	15	mA	$V_{CE}=36\text{V}$
Thermal Resistance	R_{TH}	-	.25 (TBD)	°C/W	$V_{CC}=36\text{V}$, $P_{in}=24\text{W}$, $F=2.7, 2.8$ and 2.9GHz
Power Output	P_{out}	170	-	Wpk	$V_{CC}=36\text{V}$, $P_{in}=24\text{W}$, $F=2.7, 2.8$ and 2.9GHz
Power Gain	G_P	8.5	-	dB	$V_{CC}=36\text{V}$, $P_{in}=24\text{W}$, $F=2.7, 2.8$ and 2.9GHz
Collector Efficiency	η_C	40	-	%	$V_{CC}=36\text{V}$, $P_{in}=24\text{W}$, $F=2.7, 2.8$ and 2.9GHz
Input Return Loss	RL	10	-	dB	$V_{CC}=36\text{V}$, $P_{in}=24\text{W}$, $F=2.7, 2.8$ and 2.9GHz
Load Mismatch Stability	VSWR-S	-	1.5:1	-	$V_{CC}=36\text{V}$, $P_{in}=24\text{W}$, $F=2.7, 2.8$ and 2.9GHz
Load Mismatch Tolerance	VSWR-T	-	2:1	-	$V_{CC}=36\text{V}$, $P_{in}=24\text{W}$, $F=2.7, 2.8$ and 2.9GHz

BROADBAND TEST FIXTURE IMPEDANCE

F (MHz)	Z_{IF} (Ω)	Z_{OF} (Ω)
2700	(TBD)	(TBD)
2800	(TBD)	(TBD)
2900	(TBD)	(TBD)



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