MOTOROLA
SEMICONDUCTOR
TECHNICAL DATA

CD6150
(See LT4217)

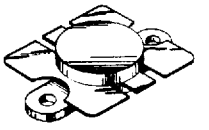
JO2015A

The RF Line
UHF Power Transistor

The JO2015A is an internally matched NPN silicon UHF power transistor. Its multicell design allows optimum heat dissipation and operating efficiency. A slotted-grid finger structure assures uniform current injection. Ruggedability and long-term reliability are guaranteed by unique, diffused silicon ballasting resistors coupled with a refractory-gold passivated metallization system.

- 50 W — P_{out} (65 W — P_{sat})
- 28 V — V_{CC}
- 225–400 MHz
- Internally Matched
- Gold Metallization

50 W — 400 MHz
UHF POWER
TRANSISTOR



.500 J ZERO
CASE 316A-01, STYLE 1

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	30	Vdc
Collector-Base Voltage	V_{CBO}	65	Vdc
Emitter-Base Voltage	V_{EBO}	3.5	Vdc
Collector Current — Continuous	I_C	10	Adc
Operating Junction Temperature	T_J	200	°C
Storage Temperature Range	T_{stg}	−65 to +200	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.25	°C/W

ELECTRICAL CHARACTERISTICS (T_C = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (I_C = 50 mA, I_B = 0)	$V_{(BR)CEO}$	30	—	—	Vdc
Collector-Base Breakdown Voltage (I_C = 100 mA, I_E = 0)	$V_{(BR)CBO}$	65	—	—	Vdc
Emitter-Base Breakdown Voltage (I_E = 5 mA, I_C = 0)	$V_{(BR)EBO}$	3.5	—	—	Vdc
ON CHARACTERISTICS					
DC Current Gain (I_C = 1 A, V_{CE} = 10 V)	h_{FE}	10	—	100	—
DYNAMIC CHARACTERISTICS					
Output Capacitance (V_{CB} = 28 V, I_E = 0, f = 1 MHz)	C_{ob}	—	—	80	pF
FUNCTIONAL TESTS					
Common-Emitter Amplifier Power Gain (V_{CE} = 28 V, P_{out} = 50 W, f = 400 MHz, I_Q = 100 mA)	G_{PE}	10	—	—	dB
Collector Efficiency (V_{CE} = 28 V, I_Q = 100 mA, P_{out} = 50 W, f = 400 MHz)	η_C	55	—	—	%
Load Mismatch (V_{CE} = 28 V, P_{out} = 50 W, f = 400 MHz, Load VSWR = 10:1, All Phase Angles)	ψ	No Degradation in Output Power			
Saturated Output Power (V_{CE} = 28 V, f = 400 MHz, I_Q = 100 mA)	P_{sat}	65	—	—	W