

**2023-16**

**16 WATTS - 24 VOLTS**

**2.0-2.3 GHz**

**MICROWAVE - BIPOLAR**

**GENERAL DESCRIPTION**

The 2023-16 is an internally matched common base transistor providing 16 watts of RF CW output power across the 2000-2300 MHz band. This hermetically sealed transistor is specifically designed for telemetry and telecommunications applications.

**ABSOLUTE MAXIMUM RATINGS**

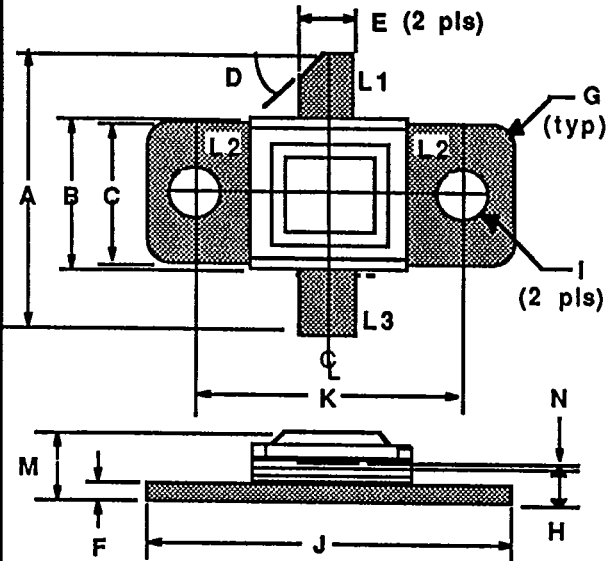
Maximum Power Dissipation @ 25°C Case Temperature 58 W

**Maximum Voltage and Current**

BVces Collector to Emitter Voltage 45 V  
 BVebo Emitter to Base Voltage 3.5 V  
 Ic Collector Current 2.5 A

**Maximum Temperatures**

Storage Temperature -65 to +200 °C  
 Operating Junction Temperature +200 °C

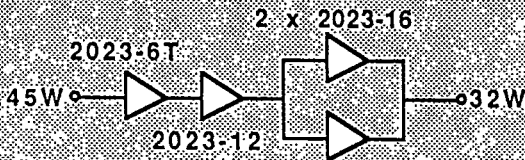


DIM	Millimeter	TOL	Inches	TOL
L1 : C				
A	20.32	.76	.800	.030
L2 : B				
B	10.16	.13	.400	.005
C	9.78	.13	.385	.005
D	45 °	50	45 °	50
E	3.81	.13	.150	.005
F	1.52	.13	.060	.005
G	1.52 R	.13	.060 R	.005
H	3.05	.13	.120	.005
I	3.30 DIA	.13	.130 DIA	.005
J	22.86	.13	.900	.005
K	16.51	.13	.650	.005
M	5.46	REF	.215	REF
N	0.13	.02	.005	.001

**TYPICAL AMPLIFIER LINE UP**

Vcc= 24 Volts

Frequency Range= 2.0-2.3 GHz



2023-16-2

ELECTRICAL CHARACTERISTICS<sup>1</sup>

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
P <sub>out</sub>	Power Output	f = 2.0-2.3 GHz V <sub>cc</sub> = 24V	16			Watts
P <sub>in</sub>	Power Input				3.6	Watts
P <sub>g</sub>	Power Gain		6.5			dB
$\eta_c$	Collector Efficiency		35			%
V <sub>SWR</sub>	Load Mismatch Tolerance				3:1	
B <sub>V</sub> ebo	Breakdown Voltage (Emitter to Base)	I <sub>c</sub> = 0A, I <sub>e</sub> = 16mA	3.5			Volts
B <sub>V</sub> ces	Breakdown Voltage (Collector to Emitter)	V <sub>be</sub> = 0A, I <sub>c</sub> = 160mA	45			Volts
I <sub>c</sub> bo	Collector Leakage Current	I <sub>e</sub> = 0A, V <sub>cb</sub> = 24V			8.0	mA
h <sub>FE</sub>	DC-Current Gain	V <sub>ce</sub> = 5.0V, I <sub>c</sub> = 1.6A	10			
$\theta_{jc}$	Thermal Resistance	T <sub>c</sub> = 50° C			3.0	°C/W

Note 1: T<sub>c</sub> = +25°C