Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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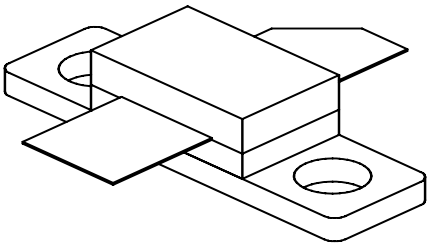
MDS70

70 Watts, 50 Volts, Pulsed
Avionics 1030 - 1090MHz

GENERAL DESCRIPTION

The MDS70 is a COMMON BASE bipolar transistor. It is designed for MODE S pulsed systems in the frequency band 1030-1090 MHz. The device has gold thin-film metallization for proven highest MTTF. The transistor includes input prematch for broadband capacity. Low thermal resistance package reduces junction temperature, extends life.

CASE OUTLINE
55CX, STYLE 1



ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C[2]	225 Watts
Maximum Voltage and Current	
BVces Collector to Base Voltage	65 Volts
BVebo Emitter to Base Voltage	3.5 Volts
Ic Collector Current	5.0 Amps
Maximum Temperatures	
Storage Temperature	- 65 to + 150°C
Operating Junction Temperature	+ 200°C

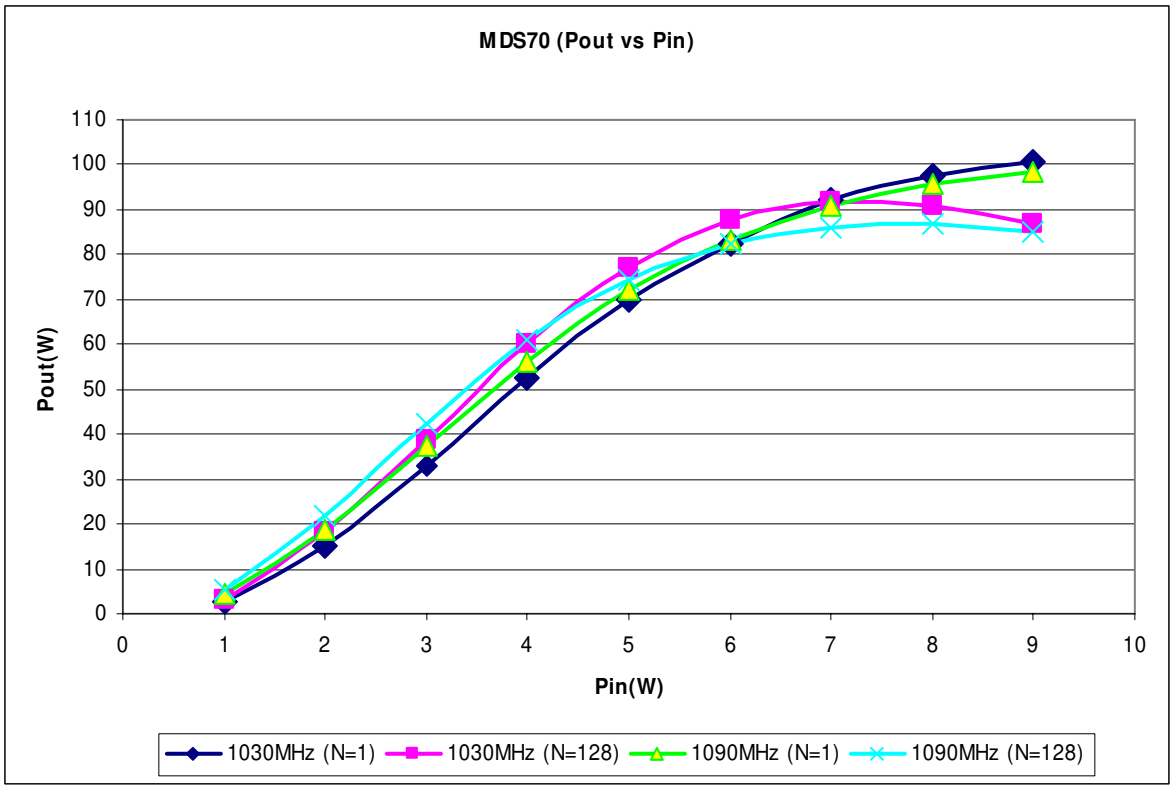
ELECTRICAL CHARACTERISTICS @ 25 °C

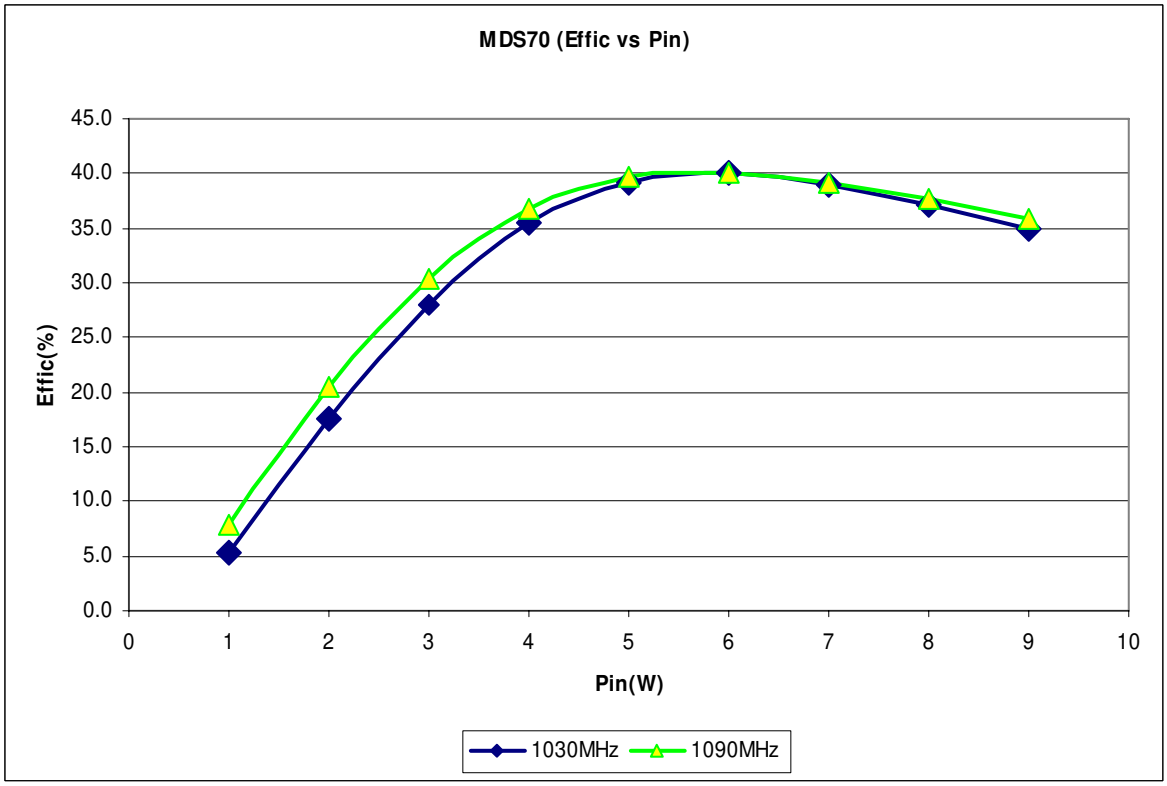
SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Pout	Power Out	F = 1030-1090 MHz Vcc = 50 Volts Pin = 6.5W Pulse Mod: Mode S[2]	70		95	Watts
Pg	Power Gain		10.3		11.65	dB
RT	Rise Time				80	ns
η_c	Collector Efficiency		35			%
VSWR[1]	Load Mismatch Tolerance	1090 MHz	5:1			

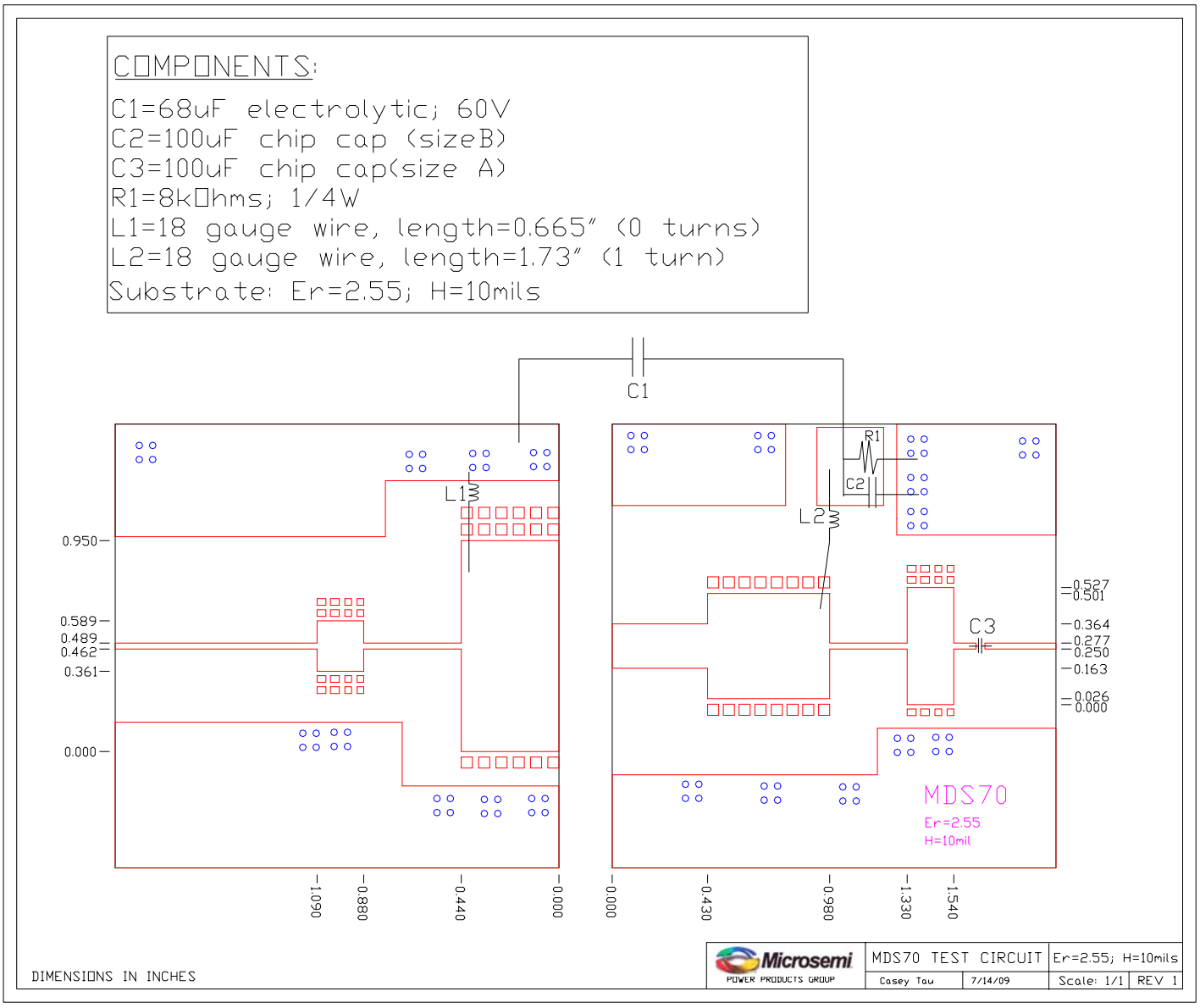
BVebo	Emitter to Base Breakdown	Ie = 5 mA	3.5			Volts
BVces	Collector to Emitter Breakdown	Ic = 25 mA	65			Volts
h_{FE}	DC - Current Gain	Ic = 500 mA, Vce = 5 V	20			
θjc[1]	Thermal Resistance				0.8	°C/W

Notes: 1) At rated pulse conditions 2) Mode S Burst: 0.5us (on/off), N=128, Per=6.4ms; LTDC=1%

Rev C: August 2010

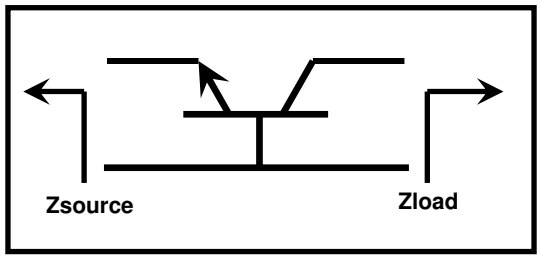




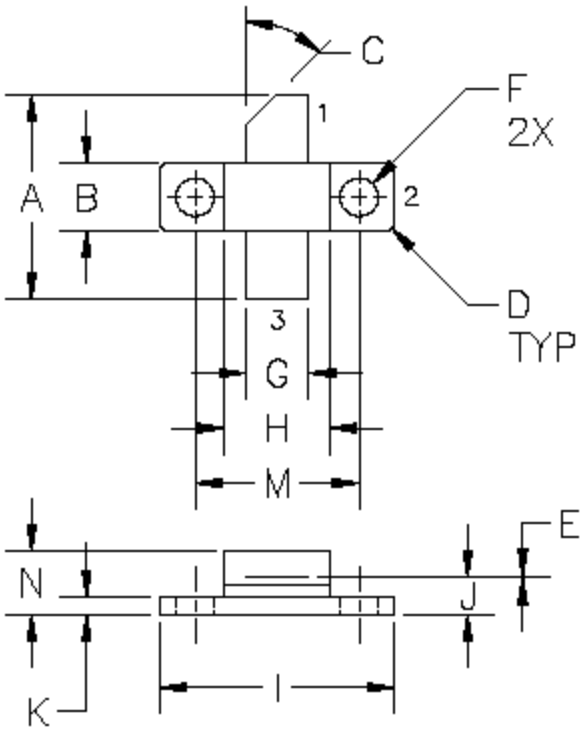


MDS70 IMPEDANCE DATA:

FREQUENCY	Z_{source} (ohms)	Z_{load} (ohms)
1030	3.0 – j4.8	5.3 – j1.2
1090	2.8 – j4.5	6.2 – j1.2



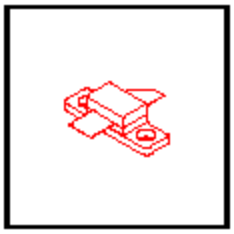
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



DIM	MILLIMETER	±TOL	INCHES	±TOL
A	17.78	.76	.700	.030
B	5.84	.13	.230	.005
C	45°	5°	45°	5°
D	1.02X45°	5°	.040X45°	5°
E	.13	.02	.005	.001
F	3.30 DIA	.13	.130 DIA	.005
G	5.46	.13	.215	.005
H	9.14	.13	.360	.005
I	20.32	.13	.800	.005
J	3.17	.25	.125	.010
K	1.52	.13	.060	.005
M	14.27	.13	.562	.005
N	5.46	REF	.215	REF

STYLE 1:
PIN1 = COLLECTOR
2 = BASE
3 =EMITTER

STYLE 2:
PIN1 = COLLECTOR
2 = EMITTER
3 = BASE



Microsemi
POWER PRODUCTS GROUP

CAGE	DWG NO.	REV
0PJR2	55CX	B
	SCALE 2/1	SHEET