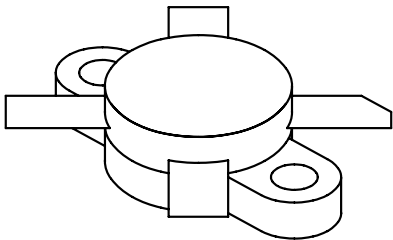




# S175 - 50

175 Watts, 50 Volts, Class AB  
Milcom 1.5 - 30 MHz

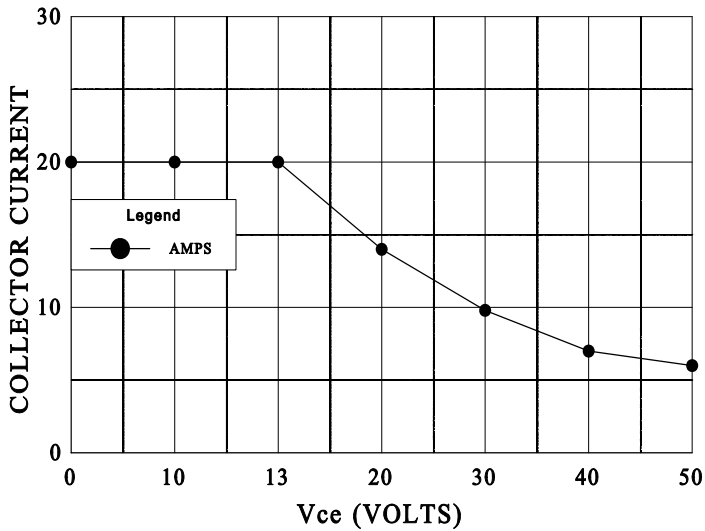
<p><b>GENERAL DESCRIPTION</b> The S175-50 is a 50 Volt, COMMON EMITTER device designed for Class A, AB or C operation in the HF/VHF frequency bands. Its high collector voltage simplifies the design of wideband, SSB linear amplifiers. The transistor chip is built using Gold Topside Metal, diffused emitter ballast resistors and silicon nitride passivation, providing the user with the Highest MTTF available.</p>	<p><b>CASE OUTLINE</b> <b>55HX, Style 2</b></p> 
<p><b>ABSOLUTE MAXIMUM RATINGS</b></p> <p>Maximum Power Dissipation @ 25°C                      270 Watts</p> <p><b>Maximum Voltage and Current</b></p> <p>BVces    Collector to Emitter Voltage                      110 Volts          BVebo    Emitter to Base Voltage                              4.0 Volts          Ic        Collector Current    20 A</p> <p><b>Maximum Temperatures</b></p> <p>Storage Temperature    - 65 to +150°C          Operating Junction Temperature                              +200°C</p>	

**ELECTRICAL CHARACTERISTICS @ 25 °C**

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
<b>Pout</b>	Power Output	F = 30 MHz	175			Watts
<b>Pin</b>	Power Input	Vcc = 50 Volts			3.5	Watts
<b>Pg</b>	Power Gain	At Rated Power Out	17	17.5		dB
<b>ηc</b>	Efficiency			65		%
<b>VSWR</b>	Load Mismatch Tolerance				30:1	

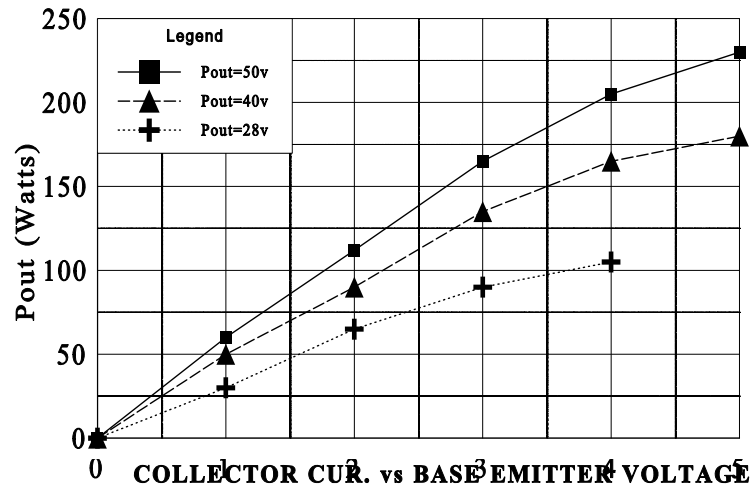
<b>BVebo</b>	Emitter to Base Breakdown	Ie = 10 mA	4			Volts
<b>BVces</b>	Collector to Emitter	Ic = 100 mA	110			Volts
<b>BVceo</b>	Breakdown	Ie = 100 mA	53			Volts
<b>Zin</b>	Collector to Emitter	At Rated Pout & Freq.		0.6-j0.4		OHMS
<b>ZI</b>	Breakdown	At Rated Pout & Freq.		4.6+2.1		OHMS
<b>Cob</b>	Series Input Impedance	Vcb = 50 V, Ie = 0		180		
<b>hFE</b>	Series Load Impedance	Vce = 5 V, Ic = 2 A	10			
<b>IMD</b>	Output Capacitance	At Rated Pout		-35		dBc
	DC - Current Gain					
	Intermodulation Distortion Lev.					

DC SAFE OPERATING AREA

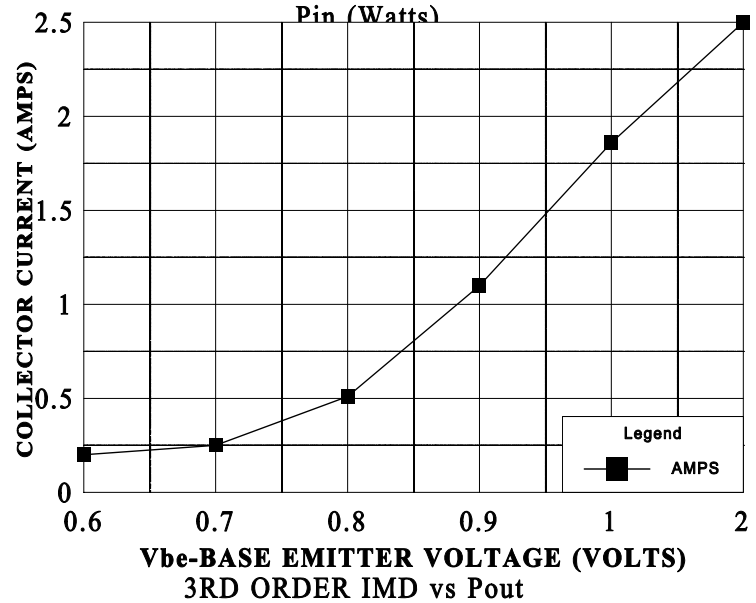


POWER OUTPUT vs POWER INPUT

Vcc - 50V, Frequency 30MHz

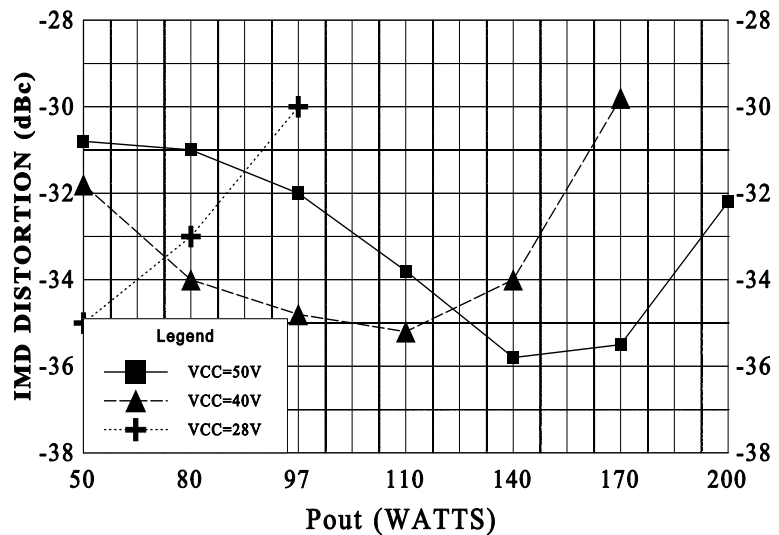


COLLECTOR CUR. vs BASE EMITTER VOLTAGE

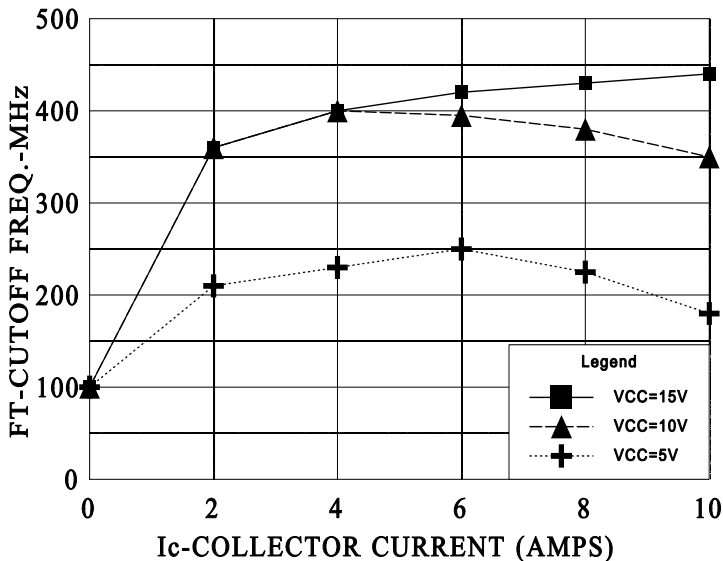


3RD ORDER IMD vs Pout

Vcc = 50V, Pin = W



CUTOFF FREQUENCY vs COLLECTOR CURRENT



# SERIES INPUT IMPEDANCE vs FREQUENCY

$V_{cc} = 50V$ ,  $P_{in} = W$

