# MMBTSC3356W

### NPN Silicon Epitaxial Planar Transistor

for microwave low noise amplifier at VHF, UHF and CATV band.

The transistor is subdivided into three groups, Q, R and S, according to its DC current gain.



1.Base 2.Emitter 3.Collector SOT-323 Plastic Package

#### Absolute Maximum Ratings (T<sub>a</sub> = 25 °C)

Parameter	Symbol	Value	Unit	
Collector Base Voltage	V <sub>CBO</sub>	20	V	
Collector Emitter Voltage	V <sub>CEO</sub>	12	V	
Emitter Base Voltage	V <sub>EBO</sub>	3	V	
Collector Current	Ι <sub>C</sub>	100	mA	
Power Dissipation	P <sub>tot</sub>	200	mW	
Junction Temperature	T <sub>j</sub>	150	°C	
Storage Temperature Range	Ts	- 65 to + 150	°C	

#### Characteristics at T<sub>amb</sub> = 25 °C

Parameter		Symbol	Min.	Тур.	Max.	Unit
	Q	h <sub>FE</sub>	50	= B	100	COM
	R S	h <sub>FE</sub> h <sub>FE</sub>	80 125		160 250	-
Collector Cutoff Current at V <sub>CB</sub> = 10 V		I <sub>CBO</sub>	-	-	1	μA
Emitter Cutoff Current at V <sub>EB</sub> = 1 V		I <sub>EBO</sub>	-	-	1	μA
Gain Bandwidth Product at V <sub>CE</sub> = 10 V, I <sub>C</sub> = 20 mA		f <sub>T</sub>	-	7	-	GHz
Feed-Back Capacitance at V <sub>CB</sub> = 10 V, f = 1 MHz		C <sub>re</sub> <sup>1)</sup>	-	0.55		pF
Insertion Power Gain at $V_{CE}$ = 10 V, $I_C$ = 20 mA, f = 1 GHz		S <sub>21e</sub>   <sup>2</sup>	RE	11.5	W.0250	dB
Noise Figure at $V_{CE}$ = 10 V, $I_C$ = 7 mA, f = 1 GHz		NF		1.1	2	dB

<sup>1)</sup> The emitter terminal and the case shall be connected to the guard terminal of the three-terminal capacitance bridge.



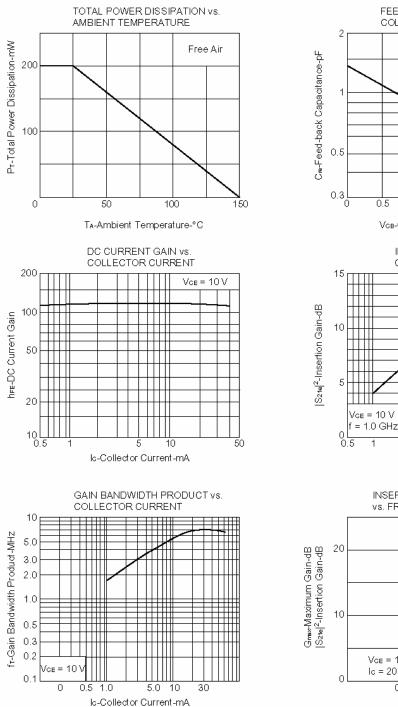
## SEMTECH ELECTRONICS LTD.

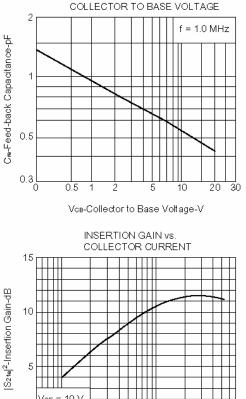
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Dated : 20/05/2006

#### TYPICAL CHARACTERISTICS (TA = 25 °C)



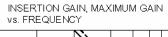


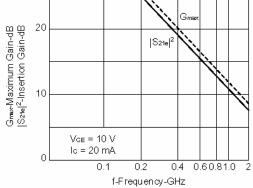
FEED-BACK CAPACITANCE vs.

5 lc-Collector Current-mA

10

50 70











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