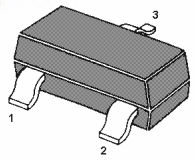
MMBTSC3356

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-23 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	20	V
Collector Emitter Voltage	V_{CEO}	12	V
Emitter Base Voltage	V_{EBO}	3	V
Collector Current	I_C	100	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	- 65 to + 150	°C

Characteristics (T_a = 25°C)

Parameter			Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 10 V, I_C = 20 mA	Current Gain Group	Q R S	h_{FE} h_{FE} h_{FE}	50 80 125	- - -	100 160 250	- - -
Collector Cutoff Current at V_{CB} = 10 V			I_{CBO}	-	-	1	µA
Emitter Cutoff Current at V_{EB} = 1 V			I_{EBO}	-	-	1	µA
Gain Bandwidth Product at V_{CE} = 10 V, I_C = 20 mA			f_T	-	7	-	GHz
Feed-Back Capacitance at V_{CB} = 10 V, f = 1 MHz			C_{re} [1)]	-	0.55	1	pF
Noise Figure at V_{CE} = 10 V, I_C = 7 mA, f = 1 GHz			NF	-	1.1	2	dB

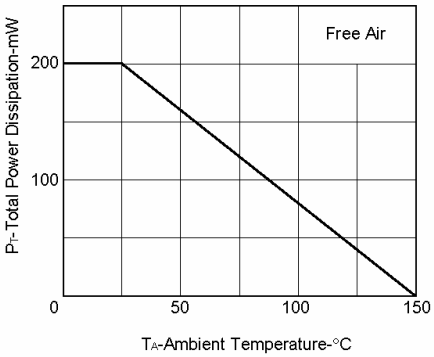
[1)] The emitter terminal and the case shall be connected to the guard terminal of the three-terminal capacitance bridge.

SEMTECH ELECTRONICS LTD.
(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)

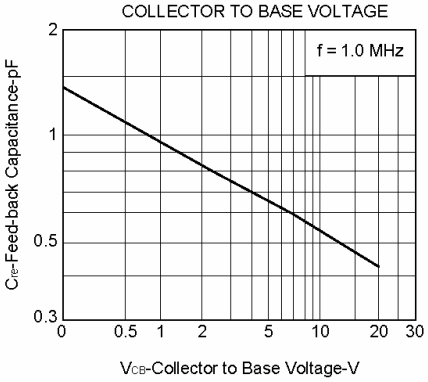
ISO/TS 16949 : 2002 Certificate No. 05103
ISO 14001:2004 Certificate No. 7116
ISO 9001:2000 Certificate No. 0506098

Dated : 04/10/2006

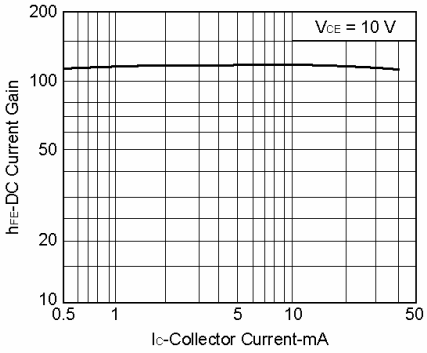
TOTAL POWER DISSIPATION vs.
AMBIENT TEMPERATURE



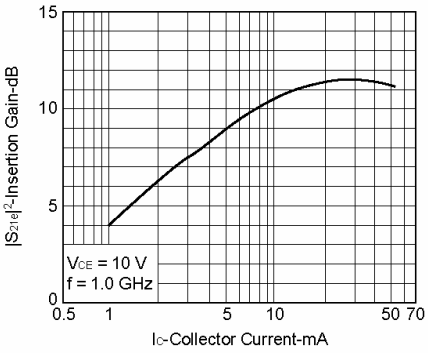
FEED-BACK CAPACITANCE vs.
COLLECTOR TO BASE VOLTAGE



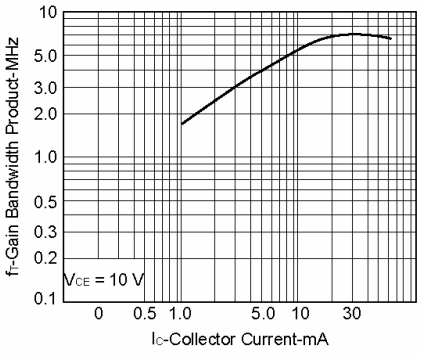
DC CURRENT GAIN vs.
COLLECTOR CURRENT



INSERTION GAIN vs.
COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs.
COLLECTOR CURRENT



INSERTION GAIN, MAXIMUM GAIN
vs. FREQUENCY