HG Semiconductors

HG RF POWER TRANSISTOR

SD1143

ROHS Compliance,Silicon NPN POWER TRANSISTOR

DESCRIPTION

The SD1143 is a 12.2 V Class C epitaxial silicon NPN planar transistor designed primarily for VHF Communications. It withstands very high VSWR under operating conditions.

IMPORTANT: For the most current data, consult *MICROSEMI*'s website: **http://www.microsemi.com**

KEY FEATURES

175 MHz
12.5 Volts
Common Emitter
P_{OUT} = 10 W Min.
G_P = 10 dB Gain

APPLICATIONS/BENEFITS

VHF Mobile Applications

ABSOLUTE MAXIMUM RATINGS (T_{CASE} = 25°C)

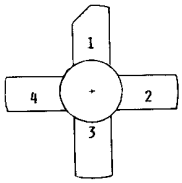
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	36	V
V_{CEO}	Collector-Emitter Voltage	18	V
V_{CES}	Collector-Emitter Voltage	36	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	2.0	A
P_{DISS}	Power Dissipation	20	W
T_J	Junction Temperature	+200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

.380 4LSTUD(M135)
epoxy sealed

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	8.75	°C/W

PIN CONNECTION



1 collector
2 emitter
3 base
4 emitter

Note : Above parameters , ratings , limits and conditions are subject to change.

HG Semiconductors

HG RF POWER TRANSISTOR

SD1143

ROHS Compliance,Silicon NPN POWER TRANSISTOR

STATIC ELECTRICAL SPECIFICATIONS (T_{CASE} = 25°C)							
Symbol	Test Conditions			SD1143			Units
				Min.	Typ.	Max.	
BV_{CES}	I_C = 50 mA	V_{BE} = 0 V		36	——	——	V
BV_{CEO}	I_C = 15 mA	I_B = 0 mA		18	——	——	V
BV_{EBO}	I_E = 2.5 mA	I_C = 0 mA		4.0	——	——	V
I_{CBO}	V_{CB} =15 V	I_E = 0 mA		——	——	1	mA
h_{FE}	V_{CE} = 5 V	I_C = 250 mA		5	——	200	——

DYMANIC ELECTRICAL SPECIFICATIONS (T_{CASE} = 25°C)							
Symbol	Test Conditions			SD1143			Units
				Min.	Typ.	Max.	
P_{OUT}	f = 175 MHz	P_{IN} = 1 W	V_{CE} = 12.5 V	10	——	——	W
G_P	f = 175 MHz	P_{IN} = 1 W	V_{CE} = 12.5 V	10	——	——	dB
C_{OB}	f = 1 MHz	V_{CB} = 15 V		——	——	45	pF

IMPEDANCE DATA		
Freq.	Z_{IN} (Ω)	Z_{CL} (Ω)
175 MHz	1.3 – j.8	5.1 + j 3.8

Note : Above parameters , ratings , limits and conditions are subject to change.