HG Semiconductors

HG RF POWER TRANSISTOR

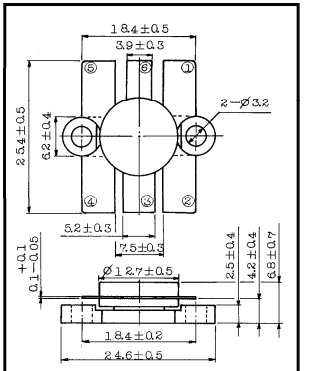
2sc2783

ROHS Compliance,Silicon NPN POWER TRANSISTOR

UHF BAND POWER AMPLIFIER APPLICATIONS

- Output Power : Po=40W (Min.)
  (f=470MHz, V_{CC}=12.5V, Pi=13W)

Unit in mm



1. EMITTER 4. EMITTER
2. EMITTER 5. EMITTER
3. BASE 6. COLLECTOR

JEDEC	—
EIAJ	—
TOSHIBA	2-13C1A

Weight : 5.5g

MAXIMUM RATINGS (Tc = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	36	V
Collector-Emitter Voltage	V_{CEO}	16	V
Emitter-Base Voltage	V_{EBO}	4	V
Collector Current	I_C	8	A
Collector Power Dissipation	P_C	150	W
Junction Temperature	T_j	175	°C
Storage Temperature Range	T_{stg}	−65~175	°C

ELECTRICAL CHARACTERISTICS (Tc = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=15V, I_E=0	—	—	6	mA
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=10mA, I_E=0	36	—	—	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=50mA, I_B=0	16	—	—	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=1mA, I_C=0	4	—	—	V
DC Current Gain	h_{FE}	V_{CE}=5V, I_C=5A *	10	—	150	
Collector Output Capacitance	C_{ob}	V_{CB}=12.5V, I_E=0 f=1MHz	—	110	150	pF
Output Power	Po	(Fig.)	40	45	—	W
Power Gain	G_p	V_{CC}=12.5V, f=470MHz	4.88	5.4	—	dB
Collector Efficiency	η_C	Pi=13W	60	65	—	%
Series Equivalent Input Impedance	Z_{in}	V_{CC}=12.5V f=470MHz, Po=40W	—	3.0 +j3.2	—	Ω
Series Equivalent Output Impedance	Z_{out}		—	1.7 +j4.7	—	Ω

* Pulse Test: Pulse Width≦100μs, Duty Cycle≦3%

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