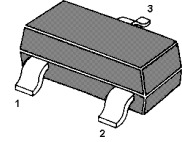


MMBT619-HAF

NPN Silicon Epitaxial Planar Transistor

Features

- Halogen and Antimony Free(HAF), RoHS compliant



1.BASE 2.EMITTER 3.COLLECTOR

SOT-23 Plastic Package

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	50	V
Collector Emitter Voltage	V_{CEO}	50	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	2	A
Peak Pulse Current	I_{CM}	6	A
Power Dissipation	$P_{tot}^{1)}$	625	mW
Junction Temperature	T_j	- 55 to + 150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

¹⁾ Maximum power dissipation is calculated assuming that the device is mounted on a ceramic, substrate measuring 15 x 15 x 0.6 mm.

TOP DYNAMIC



ISO14001 : 2004 Certificate No. 121505007 ISO 9001 : 2008 Certificate No. 5014012 OHSAS 18001 : 2007 Certificate No. 0613150808 IECQ QC 080000 Certificate No. E2018007 HMB2

Dated: 16/03/2015 Rev:03 CL

MMBT619-HAF

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain					
at $V_{CE} = 2\text{ V}$, $I_C = 10\text{ mA}$	h_{FE}	200	-	-	-
at $V_{CE} = 2\text{ V}$, $I_C = 200\text{ mA}$	h_{FE}	300	-	-	-
at $V_{CE} = 2\text{ V}$, $I_C = 1\text{ A}$	h_{FE}	200	-	-	-
at $V_{CE} = 2\text{ V}$, $I_C = 2\text{ A}$	h_{FE}	100	-	-	-
at $V_{CE} = 2\text{ V}$, $I_C = 6\text{ A}$	h_{FE}	-	40	-	-
Collector Base Cutoff Current at $V_{CB} = 40\text{ V}$	I_{CBO}	-	-	100	nA
Collector Emitter Cutoff Current at $V_{CE} = 40\text{ V}$	I_{CES}	-	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$	I_{EBO}	-	-	100	nA
Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CBO}$	50	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 10\text{ mA}$	$V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $I_C = 100\text{ mA}$, $I_B = 10\text{ mA}$ at $I_C = 1\text{ A}$, $I_B = 10\text{ mA}$ at $I_C = 2\text{ A}$, $I_B = 50\text{ mA}$	V_{CEsat}	- - -	- - -	20 200 220	mV
Base Emitter Saturation Voltage at $I_C = 2\text{ A}$, $I_B = 50\text{ mA}$	V_{BEsat}	-	-	1	V
Base Emitter Voltage at $V_{CE} = 2\text{ V}$, $I_C = 2\text{ A}$	$V_{BE(on)}$	-	-	1	V
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 50\text{ mA}$, $f = 100\text{ MHz}$	f_T	100	-	-	MHz
Collector Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	-	20	pF
Turn-On Time at $V_{CC} = 10\text{ V}$, $I_C = 1\text{ A}$, $I_{B1} = -I_{B2} = 10\text{ mA}$	$t_{d(on)}$	-	170	-	ns
Turn-Off Time at $V_{CC} = 10\text{ V}$, $I_C = 1\text{ A}$, $I_{B1} = -I_{B2} = 10\text{ mA}$	$t_{d(off)}$	-	150	-	ns

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