DESCRIPTION

For switching and amplifier applications. Especially suitable for AF-driver stages and low power output stages.

The MBT489L is available in SOT-23 package

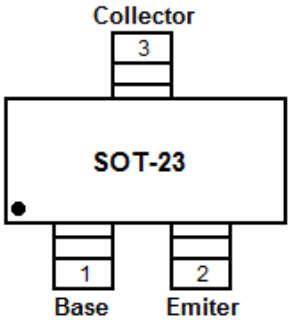
FEATURES

- Available in SOT-23 package

ORDERING INFORMATION

Package Type	Part Number
SOT-23	MBT489L
Note	SPQ: 3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION



ABSOLUTE MAXIMUM RATINGS

T_A = 25°C

V_{CBO}, Collector Base Voltage	40V
V_{CEO}, Collector Emitter Voltage	25V
V_{EBO}, Emitter Base Voltage	6V
I_C, Collector Current	1A
P_{TOT}, Power Dissipation	350mW
T_J, Junction Temperature	150°C
T_{STG}, Storage Temperature	-55 ~ +150°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

T_A = 25°C

Parameter	Symbol	Conditions	Min.	Max.	Unit
DC Current Gain	h_{FE}	V_{CE}=1V, I_C=100mA V_{CE}=1V, I_C=800mA	200 -	400 40	-
Collector Base Cutoff Current	I_{CBO}	V_{CB}=35V	-	100	nA
Emitter Base Cutoff Current	I_{EBO}	V_{EB}=6V	-	100	nA
Collector Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=100μA	40	-	V
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=2mA	25	-	V
Emitter Base Breakdown Voltage	$V_{(BR)EBO}$	I_C=100μA	6	-	V
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=800mA, I_B=80mA	-	0.5	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=800mA, I_B=80mA	-	1.2	V
Base Emitter Voltage	$V_{BE(on)}$	V_{CE}=1V, I_C=10mA	-	1	V
Gain Bandwidth Product	f_T	V_{CE}=10V, I_C=50mA	120	-	MHz

TYPICAL CHARACTERISTICS

Figure 1. I_C – V_{CE}

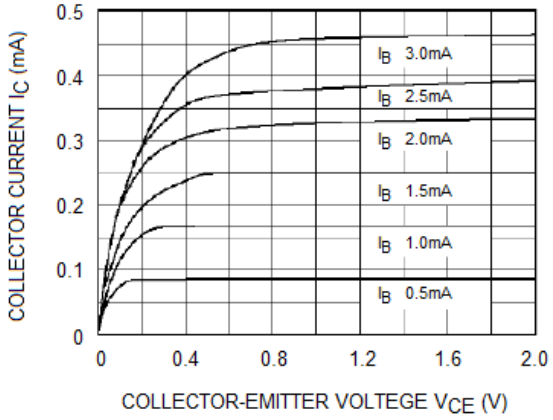


Figure 2. h_{FE} – I_C

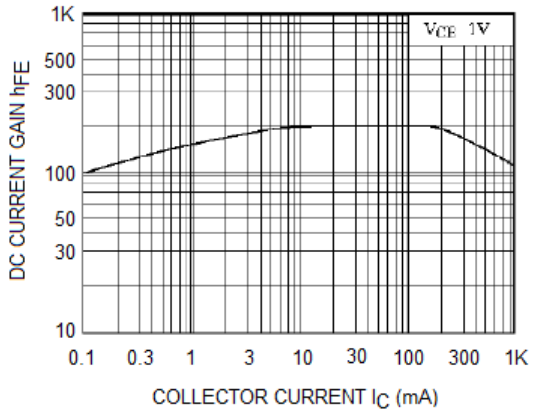


Figure 3. I_C – V_{BE}

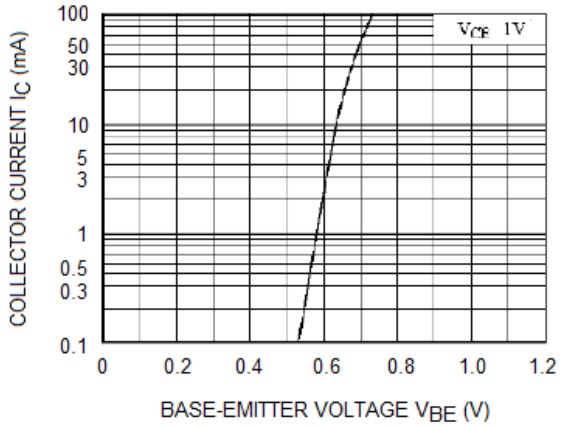


Figure 4. $V_{BE(sat)}$, $V_{CE(sat)}$ – I_C

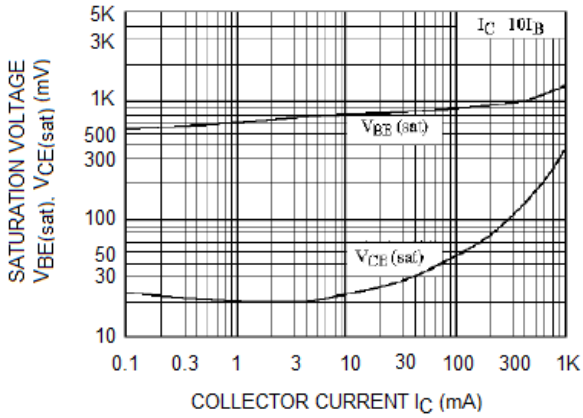


Figure 5. f_T – I_C

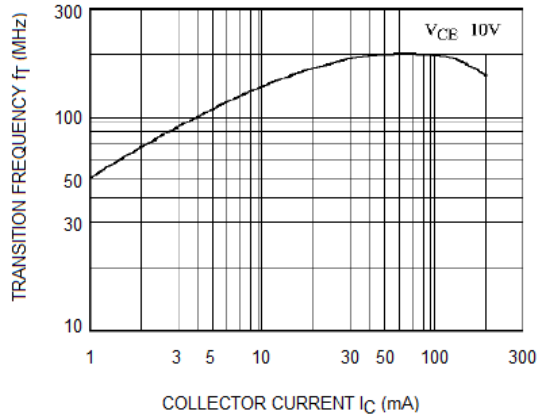


Figure 6. C_{ob} – V_{CB}

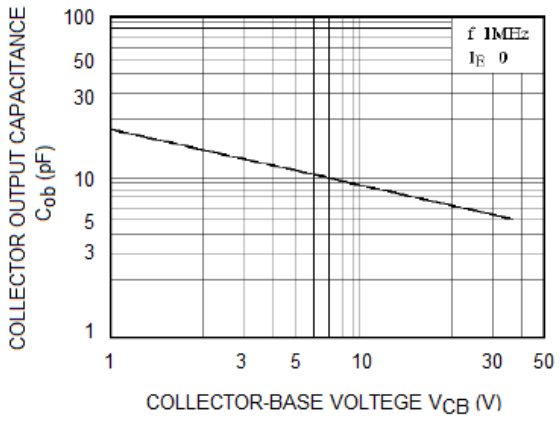
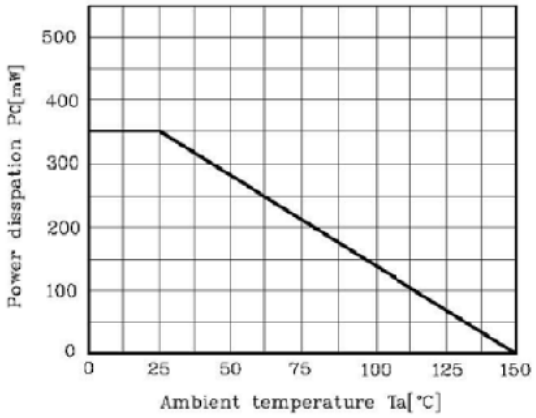
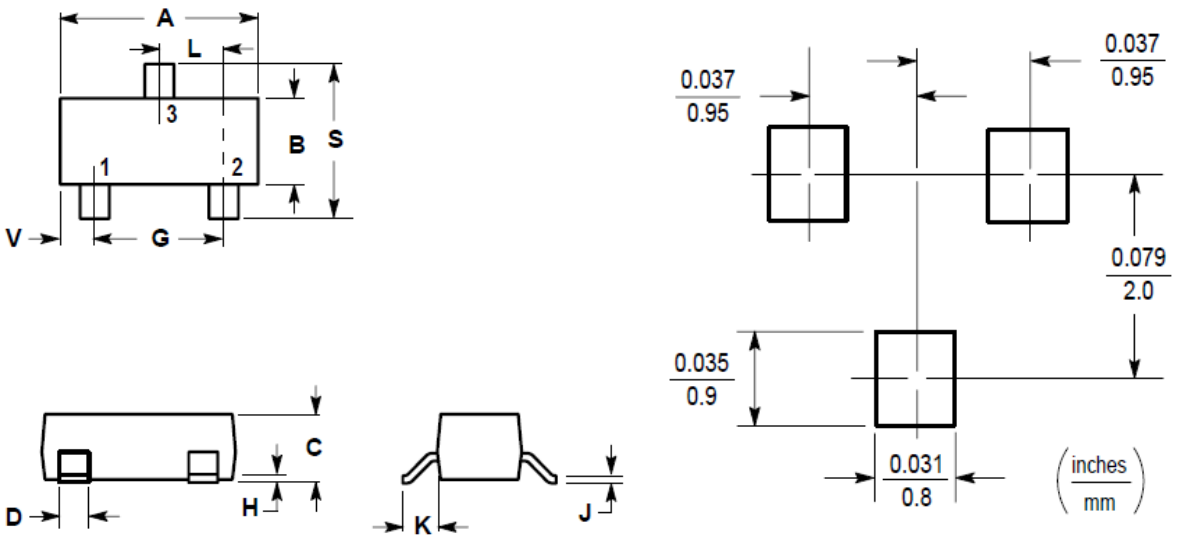


Figure 7. P_C – T_A



PACKAGE INFORMATION

Dimension in SOT-23 Package (Unit: mm)



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.04	0.1102	0.1197
B	1.20	1.40	0.0472	0.0551
C	0.89	1.11	0.0350	0.0440
D	0.37	0.50	0.0150	0.0200
G	1.78	2.04	0.0701	0.0807
H	0.013	0.100	0.0005	0.0040
J	0.085	0.177	0.0034	0.0070
K	0.35	0.69	0.0140	0.0285
L	0.89	1.02	0.0350	0.0401
S	2.10	2.64	0.0830	0.1039
V	0.45	0.60	0.0177	0.0236

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