



MMBTA55

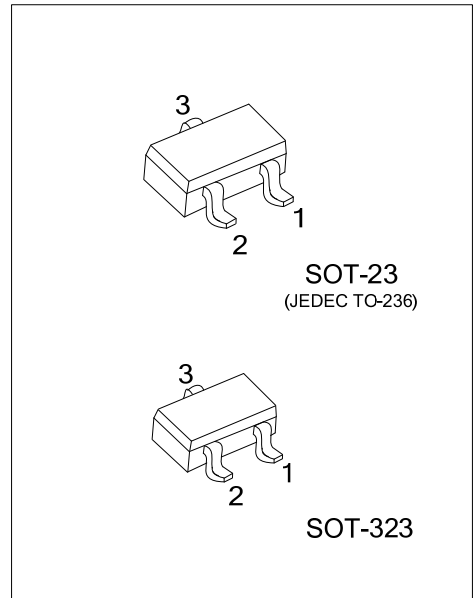
Preliminary

AMPLIFIER TRANSISTOR

PNP MMBTA55

■ FEATURES

* Collector-Emitter Voltage: $V_{CE0}=60V$



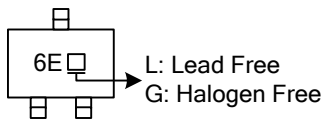
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MMBTA55L-AE3-R	MMBTA55G-AE3-R	SOT-23	E	B	C	Tape Reel
MMBTA55L-AL3-R	MMBTA55G-AL3-R	SOT-323	E	B	C	Tape Reel

Note: Pin assignment: E: EMITTER, C: COLLECTOR, B: BASE

<p>MMBTA55L-AE3-R</p> <p>(1) Packing Type (2) Package Type (3) Lead Free</p>	<p>(1) R: Tape Reel (2) AE3: SOT-23, AL3: SOT-323 (3) L: Lead Free, G: Halogen Free</p>
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■ MARKING



■ ABSOLUTE MAXIMUM RATING ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT	
Collector-base voltage	V_{CBO}	60	V	
Collector-emitter voltage	V_{CEO}	60	V	
Emitter-base voltage	V_{EBO}	4	V	
Collector current - Continuous	I_C	500	mA	
Total device dissipation	P_D	$T_A=25^\circ\text{C}$	350	mW
		Derate above 25°C	2.8	mW/ $^\circ\text{C}$
Junction Temperature	T_J	125	$^\circ\text{C}$	
Storage Temperature	T_{STG}	-40 ~ +150	$^\circ\text{C}$	

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	357	$^\circ\text{C}/\text{W}$

Note: $R_{\theta JA}$ is measured with the device soldered into a typical printed circuit board.

■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNI T
OFF CHARACTERISTICS						
Collector-emitter breakdown voltage (note 1)	$V_{(BR)CEO}$	$I_C=1.0\text{mA}, I_B=0$	60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	4			V
Collector cutoff current	I_{CES}	$V_{CE}=60\text{V}, I_B=0$			0.1	μA
Collector cutoff current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			0.1	μA
ON CHARACTERISTICS						
DC current gain	h_{FE}	$I_C=10\text{mA}, V_{CE}=1\text{V}$	100			
		$I_C=100\text{mA}, V_{CE}=1\text{V}$	100			
Collector-emitter saturation voltage	$V_{CE(SAT)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			0.25	V
Base-emitter on voltage	$V_{BE(ON)}$	$I_C=100\text{mA}, V_{CE}=1\text{V}$			1.2	V
SMALL-SIGNAL CHARACTERISTICS						
Current gain bandwidth product (note 2)	f_T	$I_C=100\text{mA}, V_{CE}=1\text{V}, f=100\text{MHz}$	50			MHz

Note 1. Pulse test: $PW \leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

2. f_T is defined as the frequency at which $|h_{fe}|$ extrapolates to unity.

■ SWITCHING TIME TEST CIRCUIT

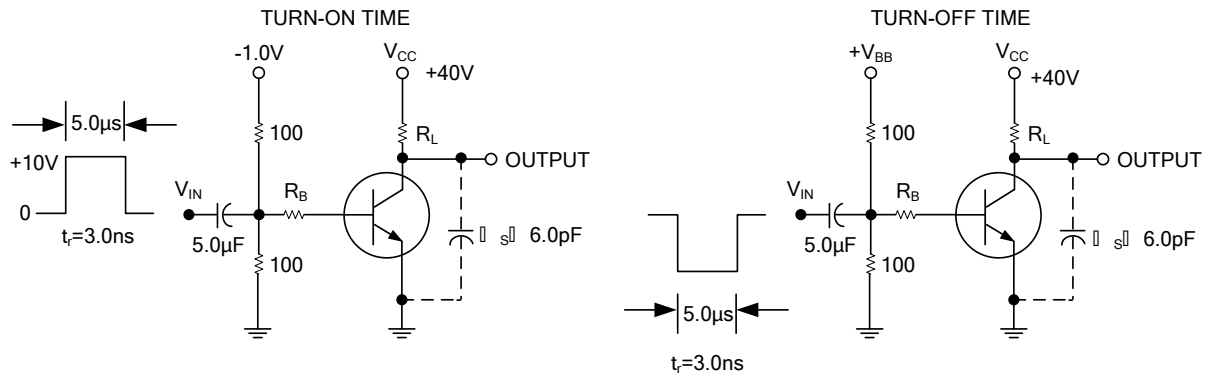


Figure 1. (Note: Total shunt capacitance of test jig and connectors for PNP test circuits, reverse all voltage polarities.)

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