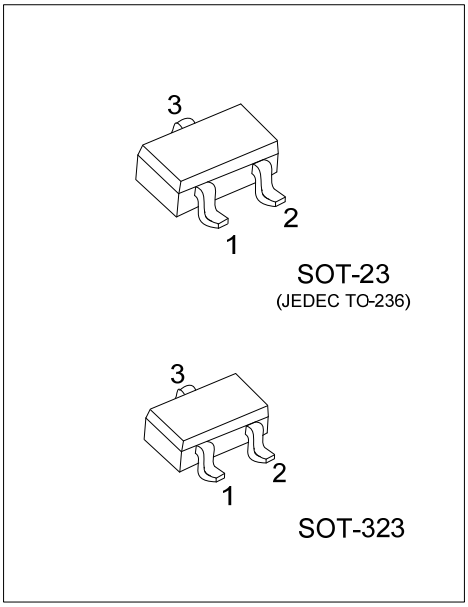
MMBTA55

PNP SILICON TRANSISTOR

AMPLIFIER TRANSISTOR



■ FEATURES

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

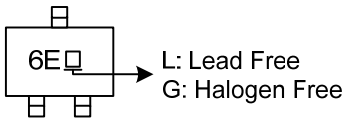
■ ORDERING INFORMATION

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

Note: Pin Assignment: B: Base E: Emitter C: Collector

MMBTA55G-AE3-R (1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AE3: SOT-23, AL3: SOT-323 (3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



■ ABSOLUTE MAXIMUM RATING (T_A=25°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	T_A=25°C	P_D	350	mW
	Derate above 25°C		2.8	mW/°C
Junction Temperature		T_J	+125	°C
Storage Temperature		T_{STG}	-40 ~ +150	°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 CHARACTERISTICS

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	357	°C/W

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

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

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

Notes: 1. Pulse test: PW<=300μs, Duty Cycle<=2%.
2. f_T is defined as the frequency at which Ihfel extrapolates to unity.

■ SWITCHING TIME TEST CIRCUIT

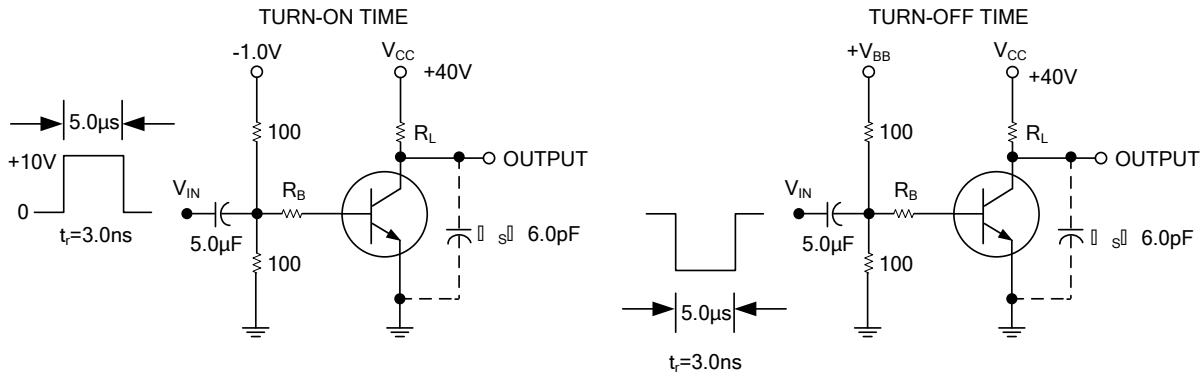


Figure 1. (Note: Total shunt capacitance of test jig and connectors for PNP test circuits, reverse all voltage polarities.)