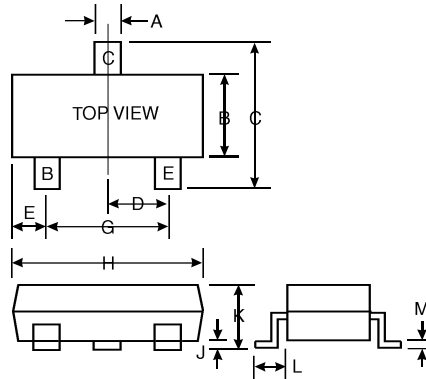


### Features

Epitaxial Planar Die Construction  
Complementary NPN Types Available  
(MMBTA05 / MMBTA06)  
Ideal for Medium Power Amplification and  
Switching

### Mechanical Data

Case: SOT-23, Molded Plastic  
Terminals: Solderable per MIL-STD-202,  
Method 208  
Terminal Connections: See Diagram  
MMBTA55 Marking: K2H, R2H  
MMBTA56 Marking: K2G, R2G  
Weight: 0.008 grams (approx.)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.19	1.40
C	2.10	2.50
D	0.89	1.05
E	0.45	0.61
G	1.78	2.05
H	2.65	3.05
J	0.013	0.15
K	0.89	1.10
L	0.45	0.61
M	0.076	0.178
All Dimensions in mm		

### Maximum Ratings @ $T_A = 25\text{ C}$ unless otherwise specified

Characteristic	Symbol	MMBTA55	MMBTA56	Unit
Collector-Base Voltage	$V_{CB0}$	-60	-80	V
Collector-Emitter Voltage	$V_{CEO}$	-60	-80	V
Emitter-Base Voltage	$V_{EBO}$		-4.0	V
Collector Current - Continuous (Note 1)	$I_C$		-500	mA
Power Dissipation (Note 1)	$P_d$		350	mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{JA}$		357	K/W
Operating and Storage and Temperature Range	$T_J, T_{STG}$		-55 to +150	C

### Electrical Characteristics @ $T_A = 25\text{ C}$ unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 2)					
Collector-Base Breakdown Voltage	MMBTA55 MMBTA56 $V_{(BR)CBO}$	-60 -80		V	$I_C = -100\text{ A}, I_E = 0$
Collector-Emitter Breakdown Voltage	MMBTA55 MMBTA56 $V_{(BR)CEO}$	-60 -80		V	$I_C = -1.0\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-4.0		V	$I_E = -100\text{ A}, I_C = 0$
Collector Cutoff Current	MMBTA55 MMBTA56 $I_{CBO}$		-100	nA	$V_{CB} = -60\text{V}, I_E = 0$ $V_{CB} = -80\text{V}, I_E = 0$
Collector Cutoff Current	MMBTA55 MMBTA56 $I_{CEX}$		-100	nA	$V_{CE} = -60\text{V}, I_{BO} = 0\text{V}$ $V_{CE} = -80\text{V}, I_{BO} = 0\text{V}$
ON CHARACTERISTICS (Note 2)					
DC Current Gain	$h_{FE}$	100			$I_C = -10\text{mA}, V_{CE} = -1.0\text{V}$ $I_C = -100\text{mA}, V_{CE} = -1.0\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$		-0.25	V	$I_C = -100\text{mA}, I_B = -10\text{mA}$
Base- Emitter Saturation Voltage	$V_{BE(SAT)}$		-1.2	V	$I_C = -100\text{mA}, V_{CE} = -1.0\text{V}$
SMALL SIGNAL CHARACTERISTICS					
Current Gain-Bandwidth Product	$f_T$	50		MHz	$V_{CE} = -1.0\text{V}, I_C = -100\text{mA},$ $f = 100\text{MHz}$

Note: 1. Valid provided that terminals are kept at ambient temperature.  
2. Pulse test: Pulse width 300  $\mu$ s, duty cycle 2%.