

## PNP Darlington Amplifier Transistor

## MMBTA63/MMBTA64

### FEATURES

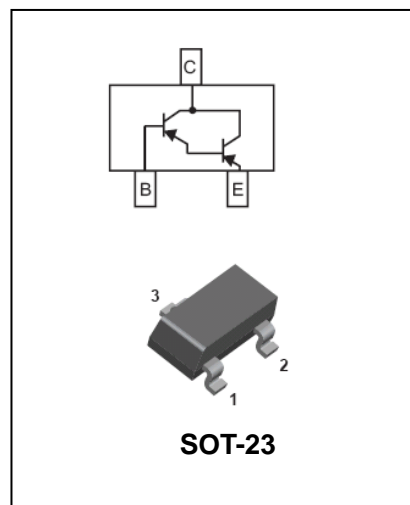
- Epitaxial planar die construction.
- Complementary NPN type available (MMBTA13/MMBTA14).
- High current gain.



Lead-free

### APPLICATIONS

- Ideal for medium power amplification and switching.



### ORDERING INFORMATION

Type No.	Marking	Package Code
MMBTA63	2U	SOT-23
MMBTA64	2V	SOT-23

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	UNIT
V <sub>CBO</sub>	collector-base voltage	MMBTA63 -30 MMBTA64 -30	V
V <sub>CEO</sub>	collector-emitter voltage	MMBTA63 -30 MMBTA64 -30	V
V <sub>EBO</sub>	emitter-base voltage	-10	V
I <sub>C</sub>	collector current (DC)	-0.5	A
P <sub>C</sub>	Collector dissipation	0.3	W
R <sub>θJA</sub>	Thermal Resistance, Junction to Ambient	417	°C/W
T <sub>J</sub> , T <sub>stg</sub>	junction and storage temperature	-55 to +150	°C



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**MMBTA63/MMBTA64**

**ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified**

Symbol	Parameter	Test conditions	MIN.	MAX.	UNIT
$V_{(BR)CBO}$	Collector-base breakdown voltage MMBTA63 MMBTA64	$I_C = -100\mu A, I_E = 0$	-30 -30	-	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage MMBTA63 MMBTA64	$I_C = -0.1mA, I_B = 0$	-30 -30	-	V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = -100\mu A, I_C = 0$	-10	-	V
$I_{CBO}$	collector cut-off current	$I_E = 0; V_{CB} = -30V$	-	-0.1	$\mu A$
$I_{CEO}$	collector cut-off current	$I_E = 0; V_{CE} = -10V$	-	-0.1	$\mu A$
$I_{EBO}$	Emitter cut-off current	$I_C = 0; V_{EB} = -10V$	-	-0.1	$\mu A$
$h_{FE}$	DC current gain MMBTA63 MMBTA64 MMBTA63 MMBTA64	$V_{CE} = -5V; I_C = -10mA$ $V_{CE} = -5V; I_C = -10mA$ $V_{CE} = -5V; I_C = -100mA$ $V_{CE} = -5V; I_C = -100mA$	5000 10000 10000 20000	-	
$V_{CE(sat)}$	collector-emitter saturation voltage	$I_C = -100mA; I_B = -0.1mA$	-	-1.5	V
$V_{BE(on)}$	base-emitter on voltage	$I_C = -100mA; V_{CE} = -5.0V$	-	-2.0	V
$f_T$	transition frequency	$I_C = -10mA; V_{CE} = -5.0V;$ $f = 100MHz$	125	-	MHz

**TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified**

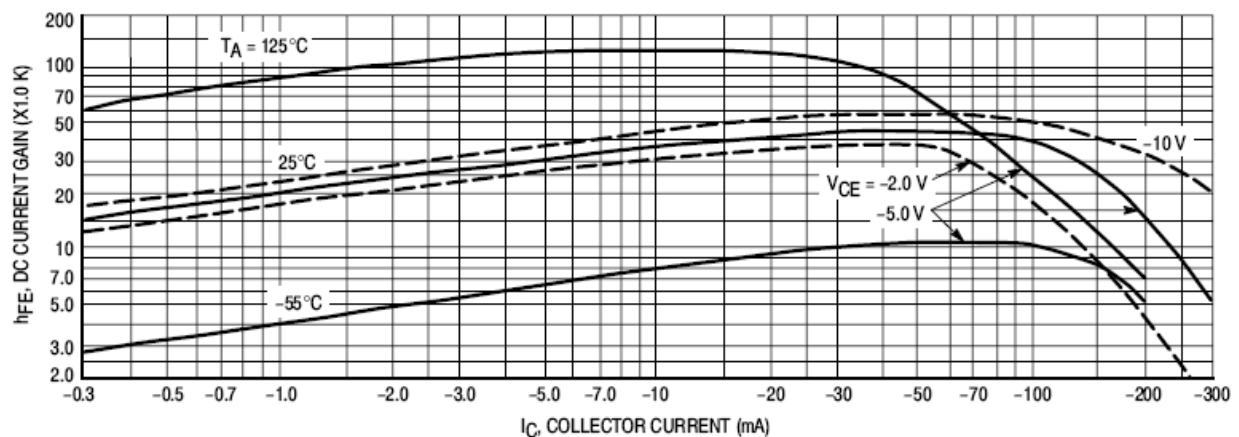


Figure 1. DC Current Gain

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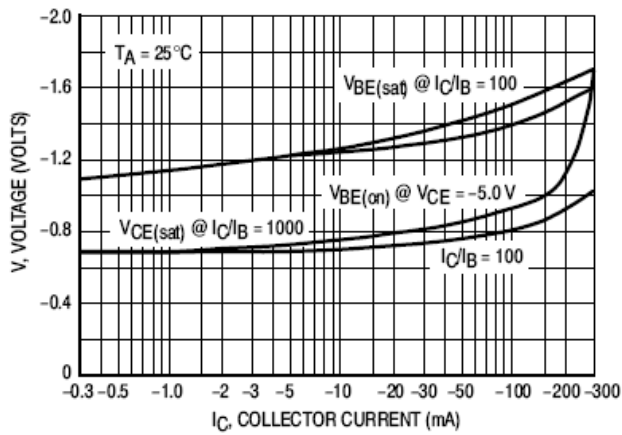


Figure 3. "On" Voltage

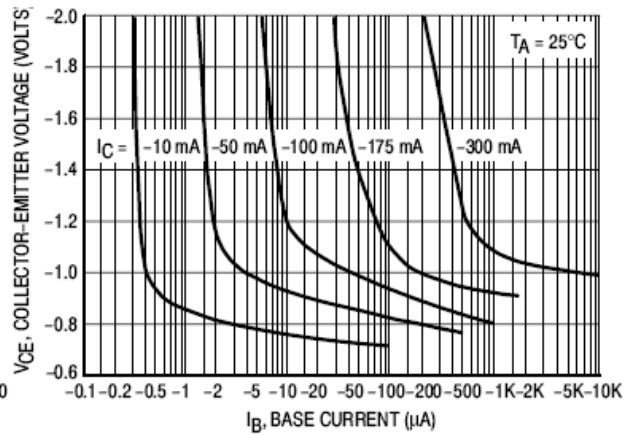
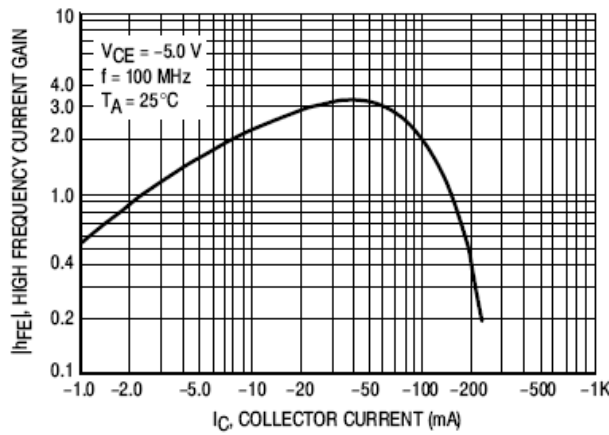


Figure 2. Collector Saturation Region



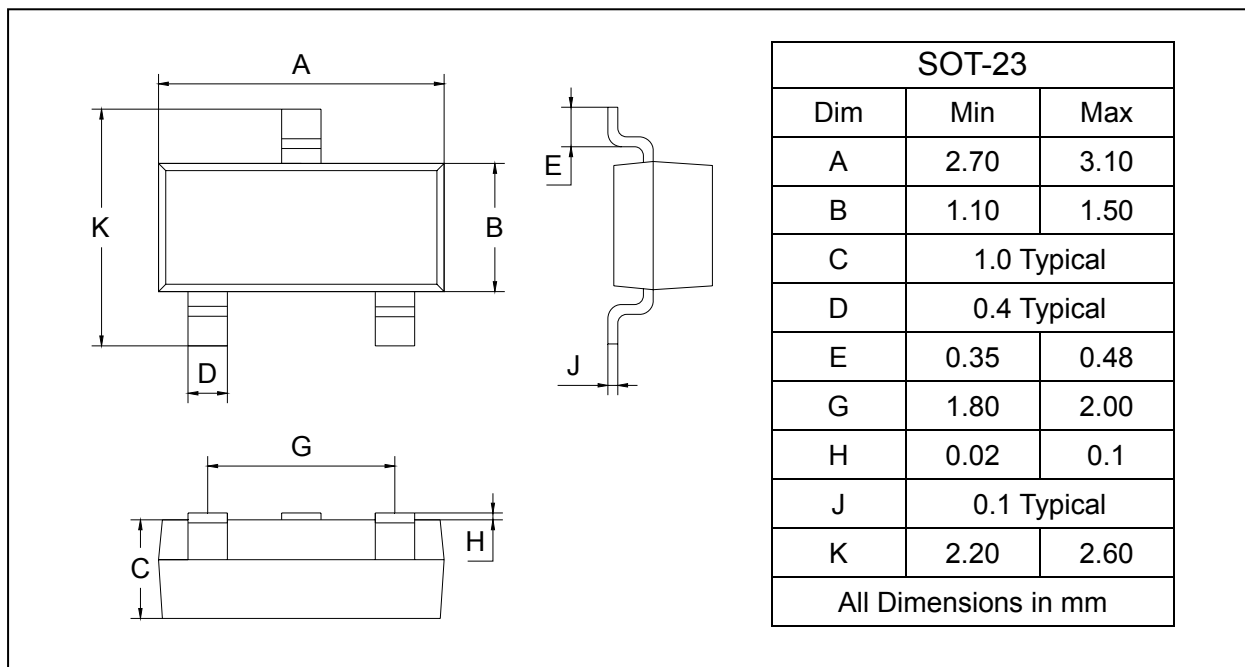
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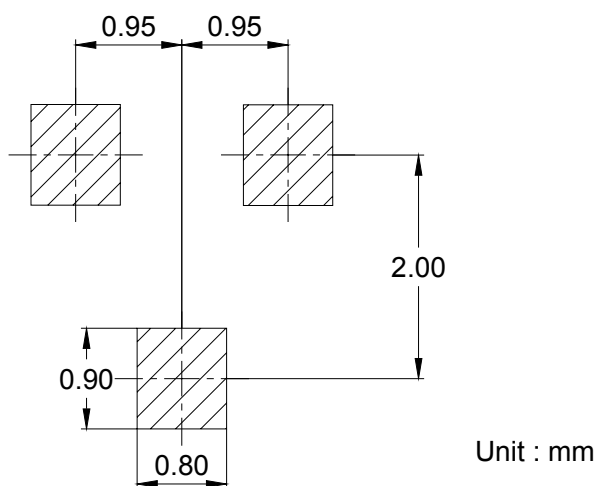
## PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



## SOLDERING FOOTPRINT



## PACKAGE INFORMATION

Device	Package	Shipping
MMBTA63/MMBTA64	SOT-23	3000/Tape&Reel