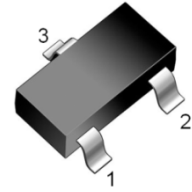


REPLACEMENT TYPE : MMBTA55

## FEATURES

- Driver Transistors



SOT-23 MARKING:2H

1:BASE 2:EMITTER 3:COLLECTOR

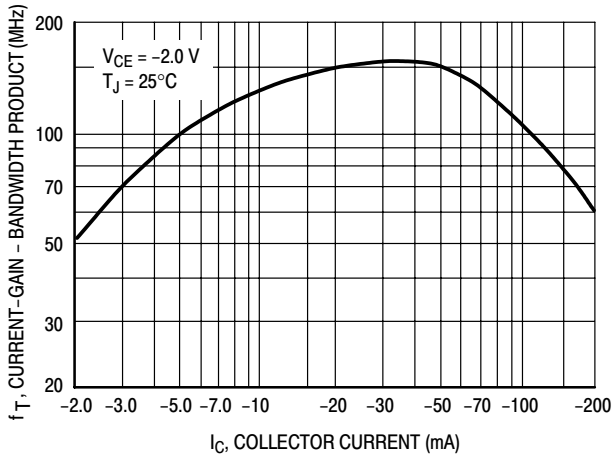
## MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	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
Collector Power Dissipation	$P_C$	225	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55~+150	$^\circ\text{C}$

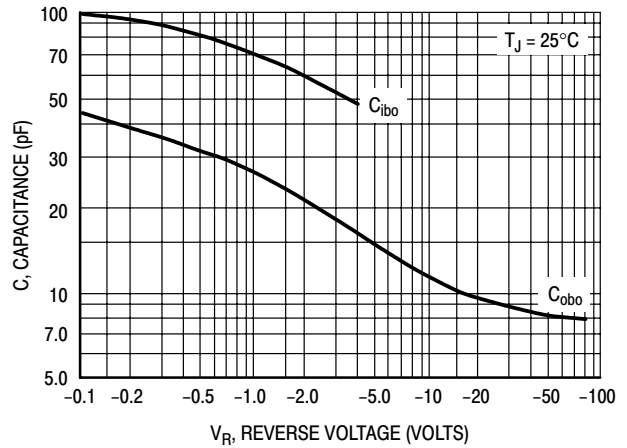
## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{CBO}$	$I_C = -100\mu\text{A}, I_E = 0$	-60			V
Collector-Emitter Breakdown Voltage	$V_{CEO}$	$I_C = -1\text{mA}, I_B = 0$	-60			V
Emitter-Base Breakdown Voltage	$V_{EBO}$	$I_E = -100\mu\text{A}, I_C = 0$	-4			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = -60\text{V}, I_E = 0$			-0.1	$\mu\text{A}$
Collector Cut-off Current	$I_{CEO}$	$V_{CE} = -60\text{V}, I_B = 0$			-0.1	$\mu\text{A}$
DC Current Gain	$h_{FE(1)}$	$V_{CE} = -1\text{V}, I_C = -10\text{mA}$	100		400	
	$h_{FE(2)}$	$V_{CE} = -1\text{V}, I_C = -100\text{mA}$	100			
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -100\text{mA}, I_B = -10\text{mA}$			-0.25	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE} = -1\text{V}, I_C = -100\text{mA}$			-1.2	V
Transition Frequency	$f_T$	$V_{CE} = -1\text{V}, I_C = -100\text{mA}, f = 100\text{MHz}$	50			MHz

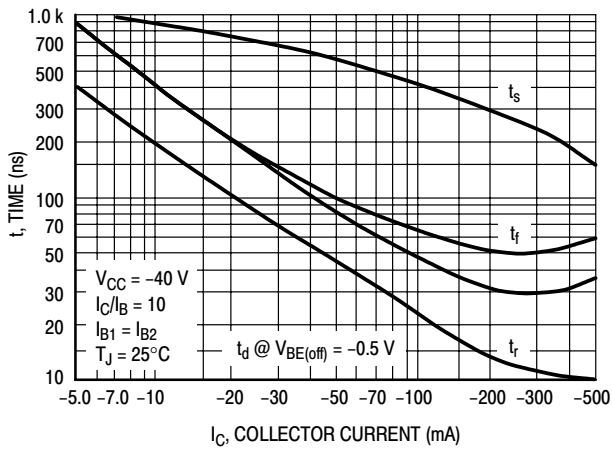
**Typical Characteristics**



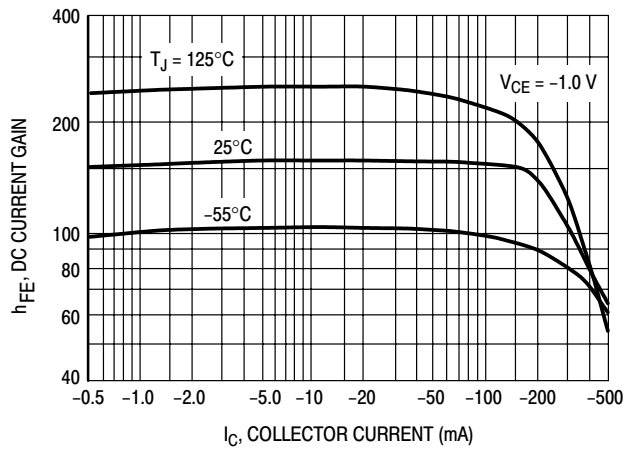
**Figure 1. Current-Gain — Bandwidth Product**



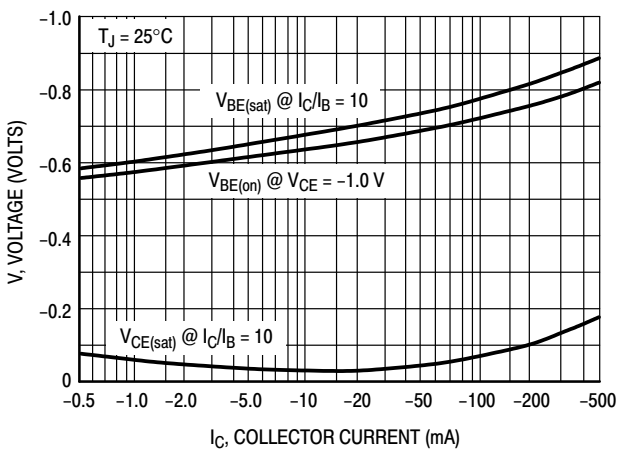
**Figure 2. Capacitance**



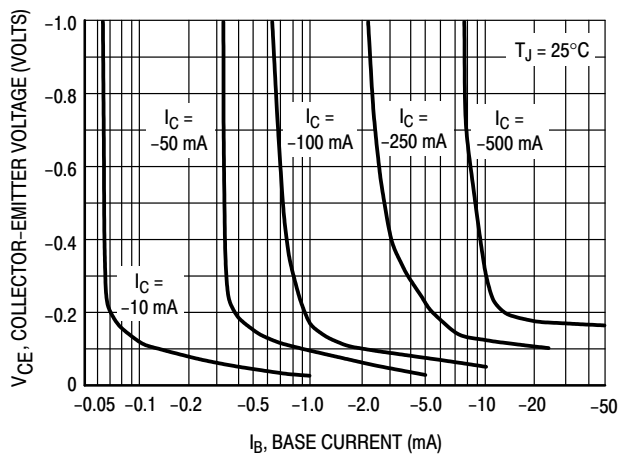
**Figure 3. Switching Time**



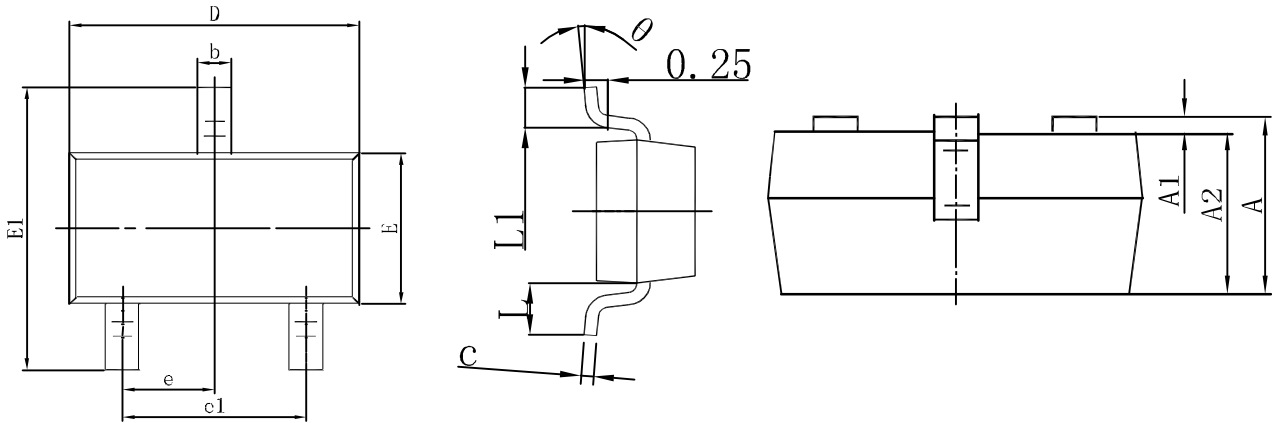
**Figure 4. DC Current Gain**



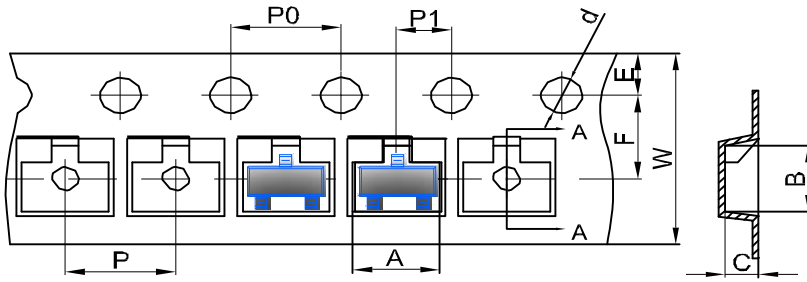
**Figure 5. "ON" Voltages**



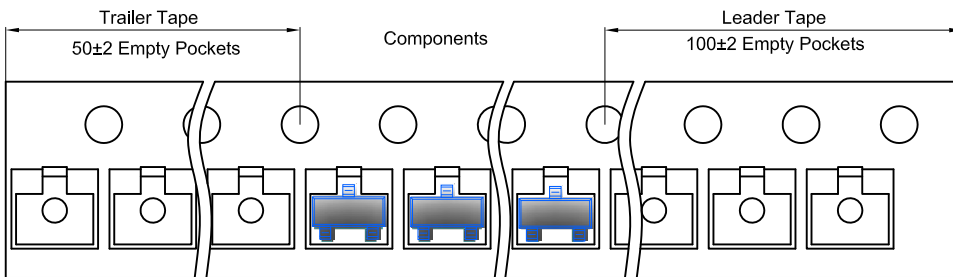
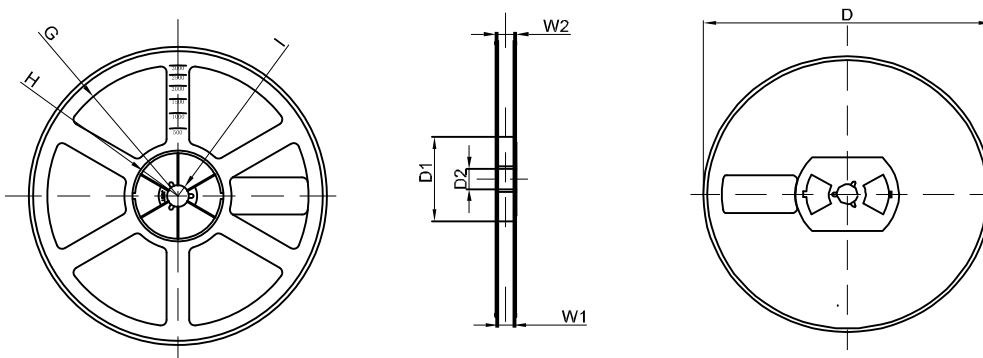
**Figure 6. Collector Saturation Region**

**SOT-23 Package Outline Dimensions**


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
$\theta$	0°	8°	0°	8°

**SOT-23 Embossed Carrier Tape**


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	φ1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

**SOT-23 Tape Leader and Traller**

**SOT-23 Reel**


DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	φ178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1