

REPLACEMENT TYPE : BC546/BC547/BC548

FEATURES

- Low current
- High Voltage
- Complement to HCBC556/HCBC557/HCBC558



TO-92

1: COLLECTOR 2: BASE 3: EMITTER

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	80	V
		50	
		30	
Collector-Emitter Voltage	V_{CEO}	65	V
		45	
		30	
Emitter-Base Voltage	V_{EBO}	6	V
		6	V
		5	V
Collector Current-Continuous	I_C	0.1	A
Collector Power Dissipation	P_C	625	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	200	$^\circ\text{C/W}$
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~+150	$^\circ\text{C}$

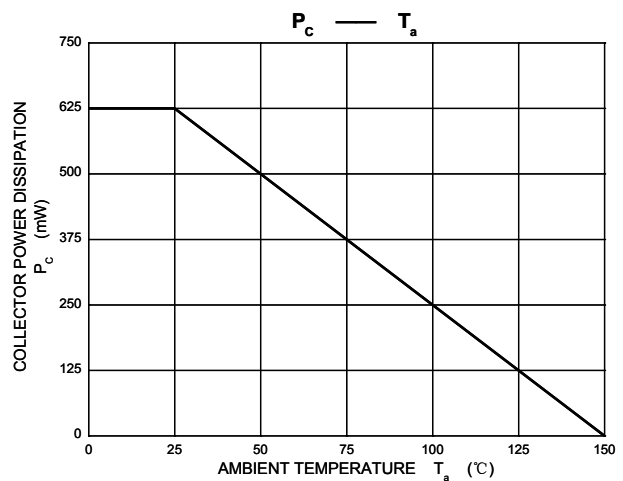
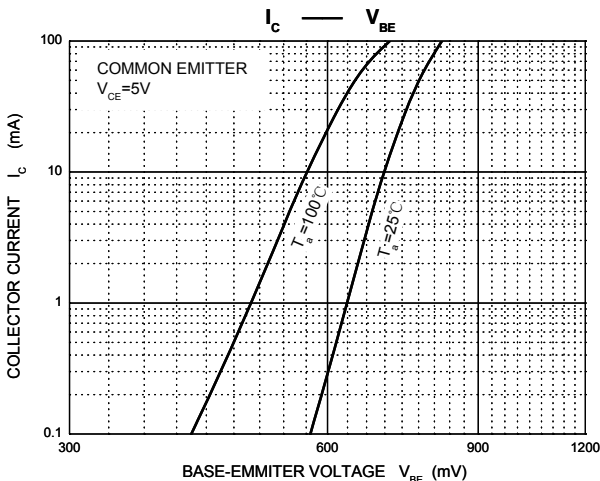
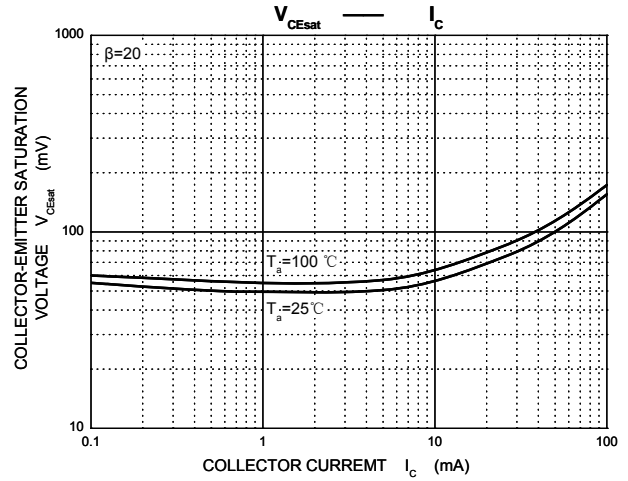
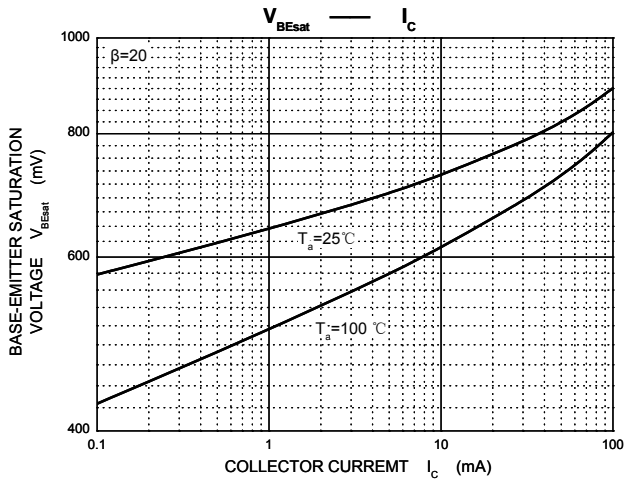
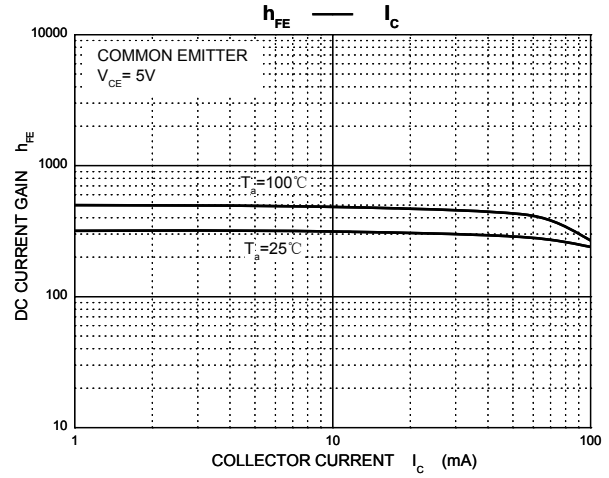
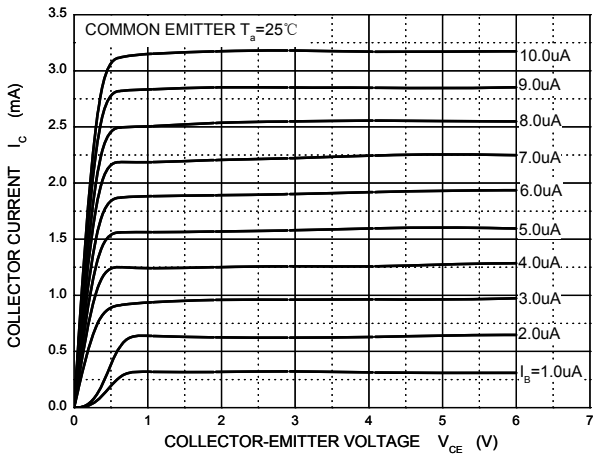
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BC546	I _C = 0.1mA , I _E =0	80			V
	BC547		50			
	BC548		30			
Collector-Emitter Breakdown Voltage	BC546	I _C =1mA, I _B =0	65			V
	BC547		45			
	BC548		30			
Emitter-Base Breakdown Voltage	BC546	I _E =10μA, I _C =0	6			V
	BC547		6			
	BC548		5			
Collector Cut-off Current	BC546	V _{CB} =70V, I _E =0			0.1	μA
	BC547	V _{CB} =50V, I _E =0			0.1	μA
	BC548	V _{CB} =30V, I _E =0			0.1	μA
Collector Cut-off Current	BC546	V _{CE} =60V, I _B =0			0.1	μA
	BC547	V _{CE} =45V, I _B =0			0.1	μA
	BC548	V _{CE} =30V, I _B =0			0.1	μA
Emitter Cut-off Current	I _{EBO}	V _E =5V, I _C =0			0.1	μA
DC Current Gain	h _{FE}	V _{CE} =5V, I _C =2mA	110		800	
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C =100mA, I _B =5mA			0.3	V
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _C =100mA, I _B =5mA			1.1	V
Base-Emitter Voltage	V _{BE}	V _{CE} =5V, I _C =2mA	0.58		0.7	V
		V _{CE} =5V, I _C =10mA			0.75	V
Collector Output Capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz			4.5	pF
Transition Frequency	f _T	V _{CE} =5V, I _C =10mA, f=100MHz	150			MHz

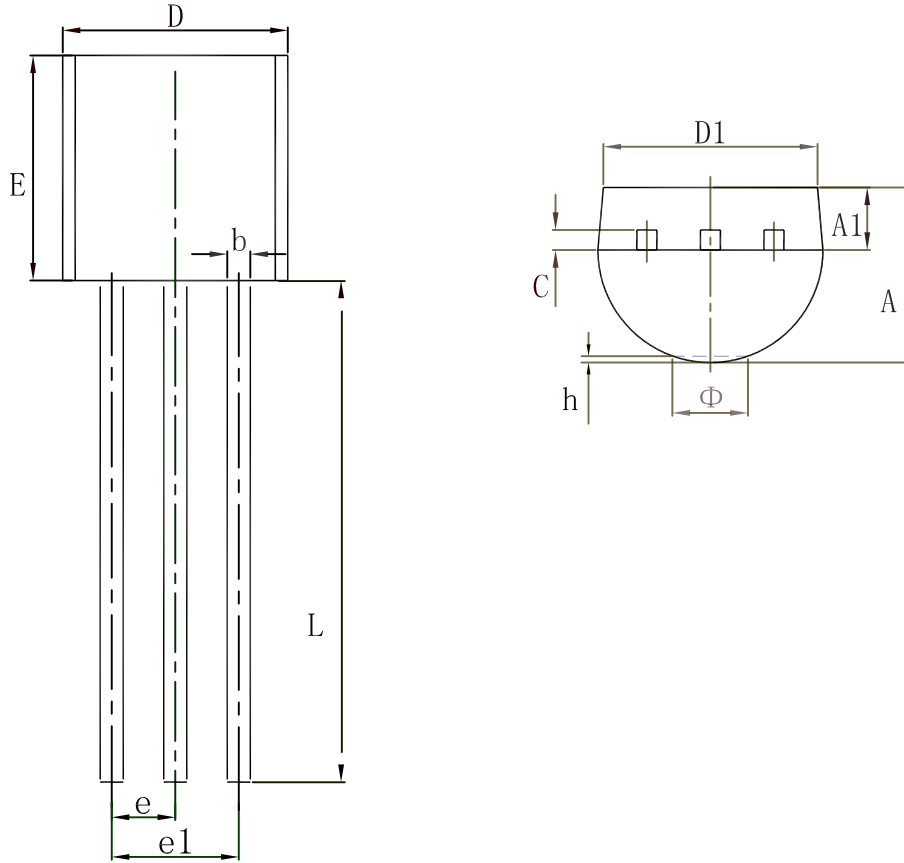
CLASSIFICATION OF h_{FE}

Rank	546A	547B	548C
Range	110-220	200-450	420-800

Typical Characteristics

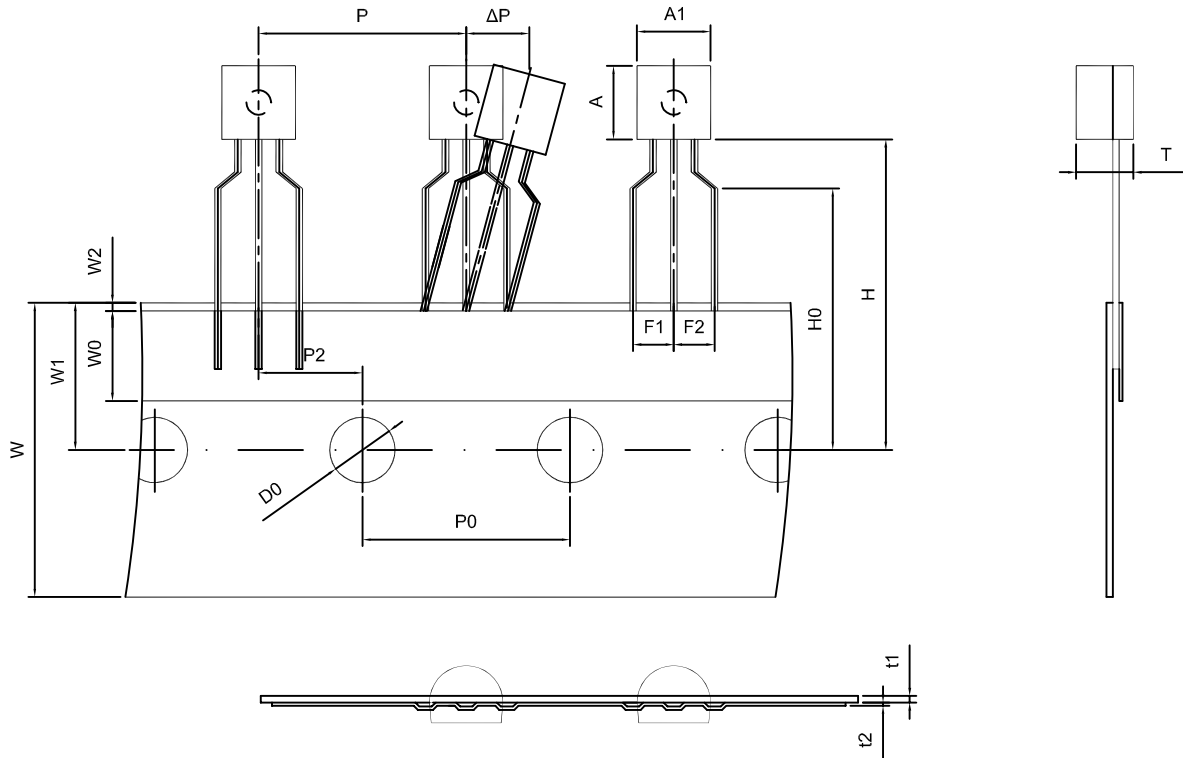


TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP.		0.050 TYP.	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92 Package Taping Dimension



Dimensions are in millimeter								
A1	A	T	P	P0	P2	F1	F2	W
4.5±0.2	4.5±0.2	3.5±0.2	12.7±0.3	12.7±0.2	6.35±0.3	2.5±0.3	2.5±0.3	18.0+1.0/-0.5
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0±0.5	9.0±0.5	1.0 MAX.	19.0±1.0	16.0±0.5	4.0±0.5	0.4±0.05	0.2±0.05	0 ± 1.0

