

GENERAL PURPOSE APPLICATION.  
SWITCHING APPLICATION .

## FEATURES

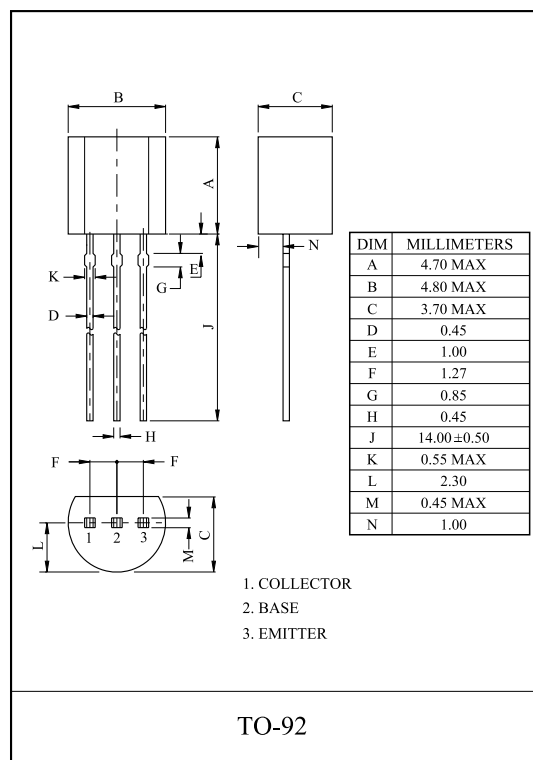
- High Voltage : BC546  $V_{CEO}=65V$ .
- For Complementary With PNP Type BC556/557/558.

## MAXIMUM RATING (Ta=25 )

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage	BC546	$V_{CBO}$	80	V
	BC547		50	
	BC548		30	
Collector-Emitter Voltage	BC546	$V_{CEO}$	65	V
	BC547		45	
	BC548		30	
Emitter-Base Voltage	BC546	$V_{EBO}$	6	V
	BC547		6	
	BC548		5	
Collector Current	BC546	$I_C$	100	mA
	BC547		100	
	BC548		100	
Base Current	BC546	$I_B$	20	mA
	BC547		20	
	BC548		20	
Emitter Current	BC546	$I_E$	-100	mA
	BC547		-100	
	BC548		-100	
Collector Power Dissipation		$*P_C$	625	mW
			400	
Junction Temperature		$T_j$	150	
Storage Temperature Range		$T_{stg}$	-55 150	

\*Cu Lead-Frame : 625mW

Fe Lead-Frame : 400mW



# BC546/7/8

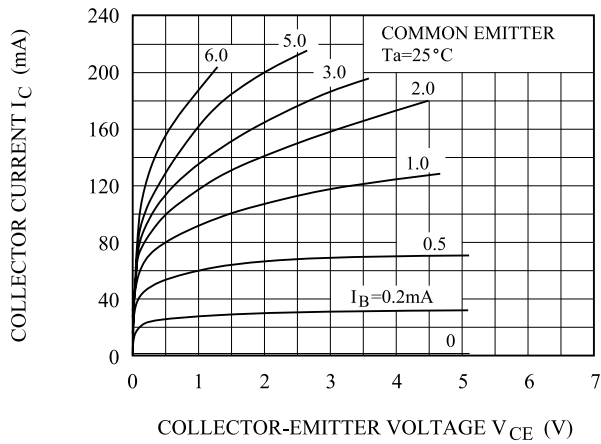
## ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CBO}$	$V_{CB}=30V, I_E=0$	-	-	15	nA
DC Current Gain (Note)	BC546	$h_{FE}$	$V_{CE}=5V, I_C=2mA$	110	-	450	
	BC547			110	-	800	
	BC548			110	-	800	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=100mA, I_B=5mA$	-	-	0.6	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	$I_C=100mA, I_B=5mA$	-	0.9	1.1	V
Base-Emitter Voltage		$V_{BE(ON)1}$	$V_{CE}=5V, I_C=2mA$	0.58	-	0.7	V
		$V_{BE(ON)2}$	$V_{CE}=5V, I_C=10mA$	-	-	0.75	V
Transition Frequency		$f_T$	$V_{CE}=5V, I_C=10mA, f=100MHz$	-	150	-	MHz
Collector Output Capacitance		$C_{ob}$	$V_{CB}=10V, f=1MHz, I_E=0$	-	-	4.5	pF
Noise Figure		NF	$V_{CE}=6V, I_C=0.1mA$ $R_g=10k\Omega, f=1kHz$	-	1.0	10	dB

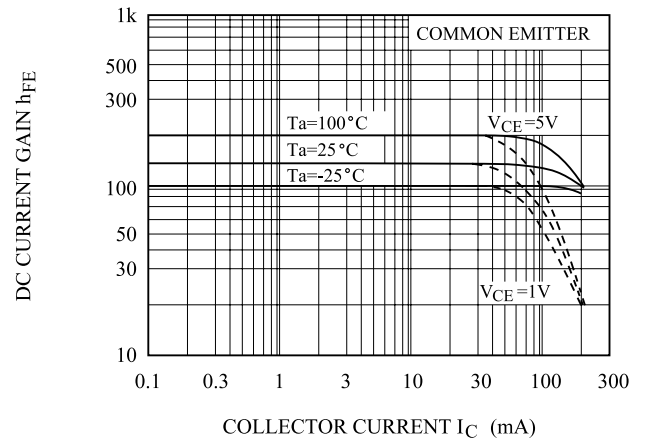
NOTE : According to the value of  $h_{FE}$  the BC546, BC547, BC548 are classified as follows.

CLASSIFICATION		none	A	B	C
$h_{FE}$	BC546	110 450	110 220	200 450	-
	BC547	110 800	110 220	200 450	420 800
	BC548	110 800	110 220	200 450	420 800

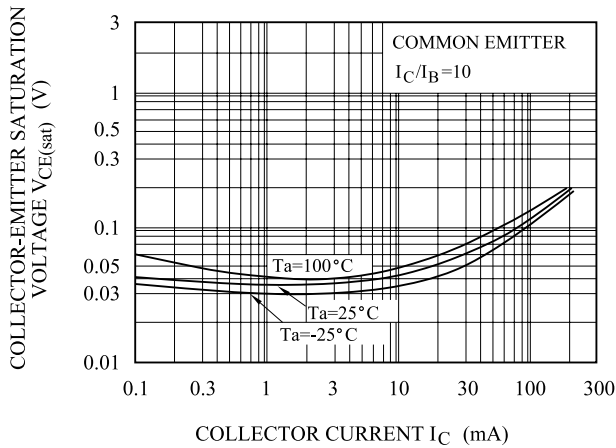
$I_C - V_{CE}$  (LOW VOLTAGE REGION)



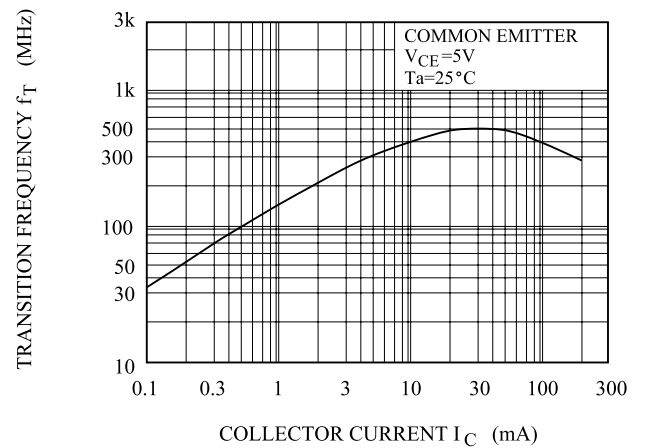
$h_{FE} - I_C$



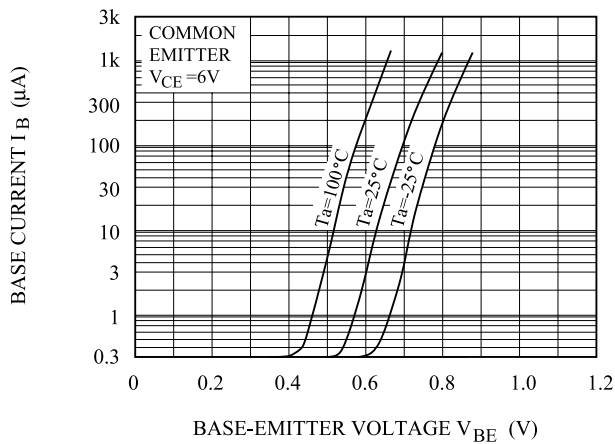
$V_{CE(sat)} - I_C$



$f_T - I_C$



$I_B - V_{BE}$



$P_C - T_a$

