



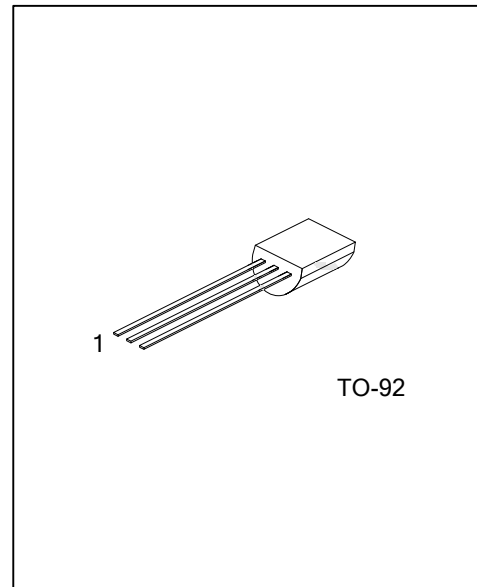
**BC337/BC338**

**NPN SILICON TRANSISTOR**

**SWITCHING AND AMPLIFIER APPLICATIONS**

■ **FEATURES**

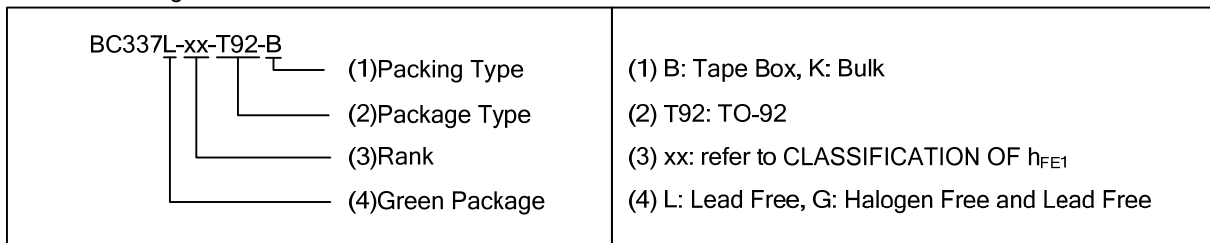
- \* Suitable for AF-Driver stages and low power output stages
- \* Complement to UTC BC327/328



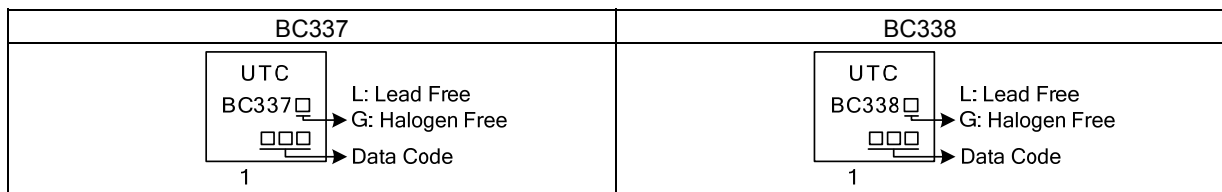
■ **ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
BC337L-xx-T92-B	BC337G-xx-T92-B	TO-92	C	B	E	Tape Box
BC337L-xx-T92-K	BC337G-xx-T92-K	TO-92	C	B	E	Bulk
BC338L-xx-T92-B	BC338G-xx-T92-B	TO-92	C	B	E	Tape Box
BC338L-xx-T92-K	BC338G-xx-T92-K	TO-92	C	B	E	Bulk

Note: Pin Assignment: C: Collector B: Base E: Emitter



■ **MARKING**



# BC337/BC338

## NPN SILICON TRANSISTOR

### ■ ABSOLUTE MAXIMUM RATING ( $T_A=25^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Collector-Emitter Voltage	BC337	50	V
	BC338	30	V
Collector-Emitter Voltage	BC337	45	V
	BC338	25	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current (DC)	$I_C$	800	mA
Collector Dissipation	$P_C$	625	mW
Derate Above $25^{\circ}\text{C}$		5	mW/ $^{\circ}\text{C}$
Junction Temperature	$T_J$	125	$^{\circ}\text{C}$
Operating Temperature	$T_{OPR}$	-20 ~ +85	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-40 ~ +150	$^{\circ}\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

### ■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	$\theta_{JA}$	200	$^{\circ}\text{C}/\text{W}$
Junction to Case	$\theta_{JC}$	83.3	$^{\circ}\text{C}/\text{W}$

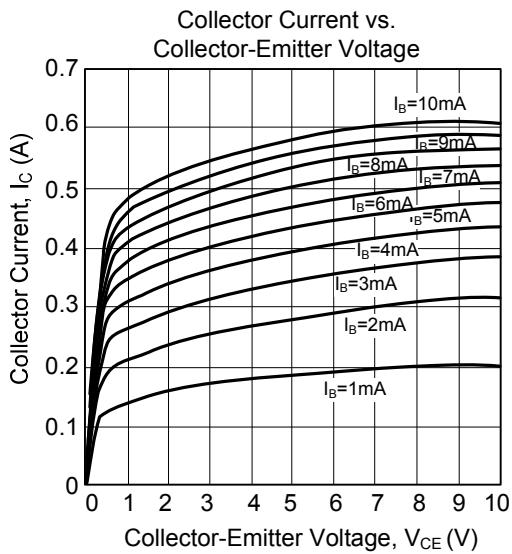
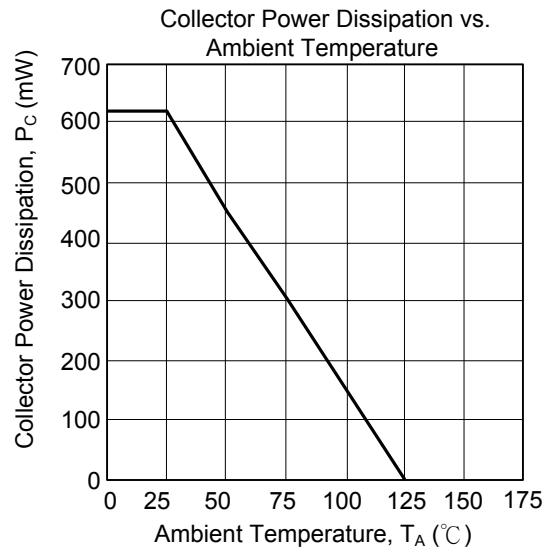
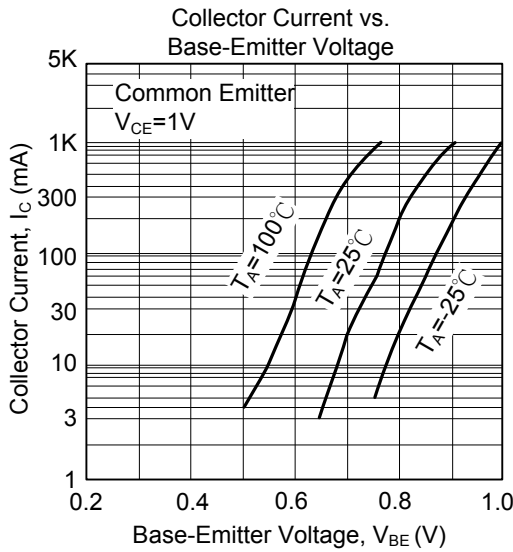
### ■ ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Emitter Breakdown Voltage	BC337	$I_C=10\text{mA}, I_B=0$	45			V
	BC338		25			V
Collector-Emitter Breakdown Voltage	BC337	$I_C=0.1\text{mA}, V_{BE}=0$	50			V
	BC338		30			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=0.1\text{mA}, I_C=0$	5			V
Collector Cut-off Current	BC337	$V_{CE}=45\text{V}, I_B=0$		2	100	nA
	BC338	$V_{CE}=25\text{V}, I_B=0$		2	100	nA
DC Current Gain	$h_{FE1}$	$V_{CE}=1\text{V}, I_C=100\text{mA}$	100		630	
	$h_{FE2}$	$V_{CE}=1\text{V}, I_C=300\text{mA}$	60			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$			0.7	V
Base-Emitter on Voltage	$V_{BE(ON)}$	$V_{CE}=1\text{V}, I_C=300\text{mA}$			1.2	V
Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		12		pF
Current Gain Bandwidth Product	$f_T$	$V_{CE}=5\text{V}, I_C=10\text{mA}, f=50\text{MHz}$		100		MHz

### ■ CLASSIFICATION OF $h_{FE1}$

RANK	16	25	40
$h_{FE1}$	100-250	160-400	250-630

### TYPICAL CHARACTERISTICS



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