

# BC 337 · BC 338

NPN SILICON AF MEDIUM POWER TRANSISTORS

THE BC337, BC338 ARE NPN SILICON PLANAR EPITAXIAL TRANSISTORS FOR USE IN AF DRIVER AND OUTPUT STAGES, AS WELL AS FOR UNIVERSAL APPLICATIONS. THE BC337, BC338 ARE COMPLEMENTARY TO THE PNP TYPE BC327, BC328 RESPECTIVELY.

CASE TO-92F



## ABSOLUTE MAXIMUM RATINGS

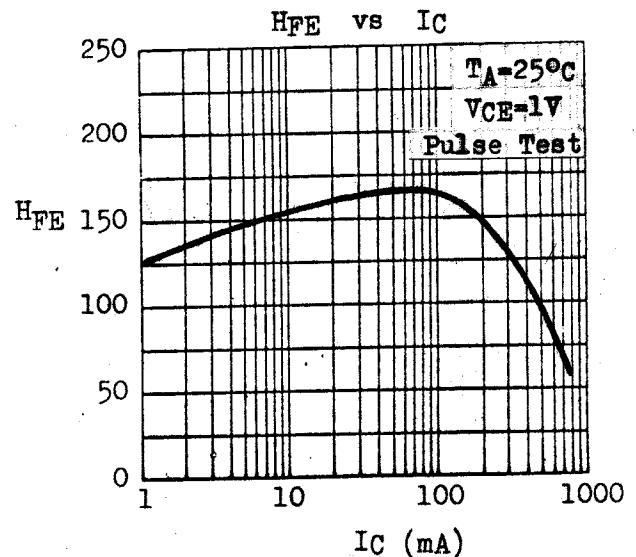
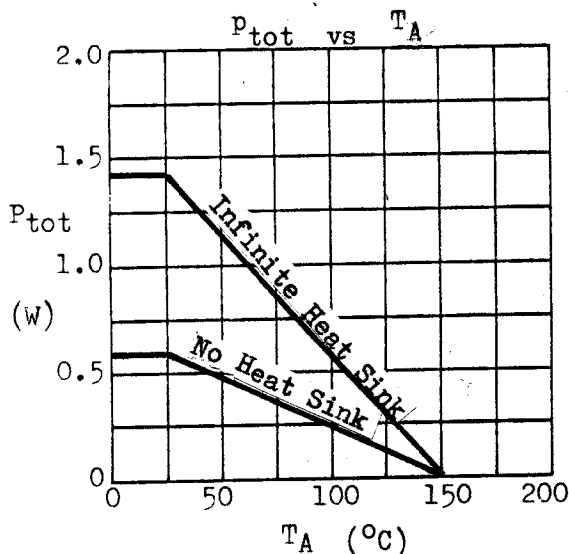
Collector-Emitter Voltage ( $V_{BE}=0$ )  
 Collector-Emitter Voltage ( $I_B=0$ )  
 Emitter-Base Voltage  
 Collector Current  
 Collector Peak Current ( $t \leq 10\text{ms}$ )  
 Total Power Dissipation (@  $T_C \leq 25^\circ\text{C}$ )  
 (@  $T_A \leq 25^\circ\text{C}$ )  
 Operating Junction & Storage Temperature

	BC337	BC338
$V_{CES}$	50V	30V
$V_{CEO}$	45V	25V
$V_{EBO}$		5V
$I_C$	0.8A	
$I_{CM}$	1.5A	
$P_{tot}$	1.4W	625mW
$T_j, T_{stg}$	-55 to $150^\circ\text{C}$	

## THERMAL RESISTANCE

Junction to Case  
 Junction to Ambient

$\theta_{jc}$	$90^\circ\text{C/W}$	max.
$\theta_{ja}$	$200^\circ\text{C/W}$	max.



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

PARAMETER	SYMBOL	BC337		BC338		UNIT	TEST CONDITIONS
		MIN	TYP MAX	MIN	TYP MAX		
Collector-Emitter Breakdown Voltage	$BV_{CES}$	50		30		V	$I_C=0.1\text{mA}$ $V_{BE}=0$
Collector-Emitter Breakdown Voltage	$LV_{CEO} *$	45		25		V	$I_C=10\text{mA}$ $I_B=0$
Emitter-Base Breakdown Voltage	$BV_{EBO}$	5		5		V	$I_E=0.1\text{mA}$ $I_C=0$
Collector Cutoff Current	$I_{CES}$		100			nA	$V_{CES}=45\text{V}$
					100	nA	$V_{CES}=25\text{V}$
			10			$\mu\text{A}$	$V_{CES}=45\text{V}$ $T_A=125^\circ\text{C}$
					10	$\mu\text{A}$	$V_{CES}=25\text{V}$ $T_A=125^\circ\text{C}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)} *$		0.7		0.7	V	$I_C=500\text{mA}$ $I_B=50\text{mA}$
Base-Emitter Voltage	$V_{BE} *$		1.2		1.2	V	$I_C=300\text{mA}$ $V_{CE}=1\text{V}$
D.C. Current Gain	$H_{FE} *$		100	630	100	630	$I_C=100\text{mA}$ $V_{CE}=1\text{V}$
		Group 16 (A)	100	250	100	250	
		Group 25 (B)	160	400	160	400	
		Group 40 (C)	250	630	250	630	
		All Groups	40		40		$I_C=300\text{mA}$ $V_{CE}=1\text{V}$
$H_{FE}$ Matched Pair Ratio	$\frac{H_{FE} 1}{H_{FE} 2} *$		1.41		1.41		$I_C=100\text{mA}$ $V_{CE}=1\text{V}$
Current Gain-Bandwidth Product	$f_T$		100		100	MHz	$I_C=10\text{mA}$ $V_{CE}=5\text{V}$
Collector-Base Capacitance	$C_{ob}$		10		10	pF	$V_{CB}=10\text{V}$ $I_E=0$ $f=1\text{MHz}$

\* Pulse Test : Pulse Width=0.3mS, Duty Cycle=1%

