

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

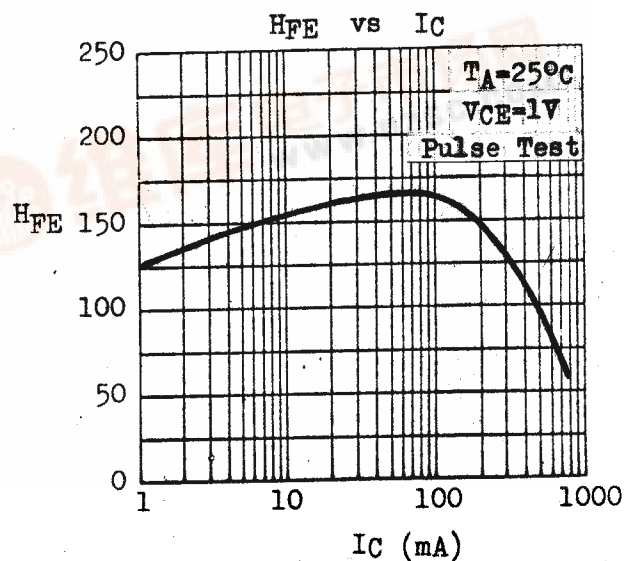
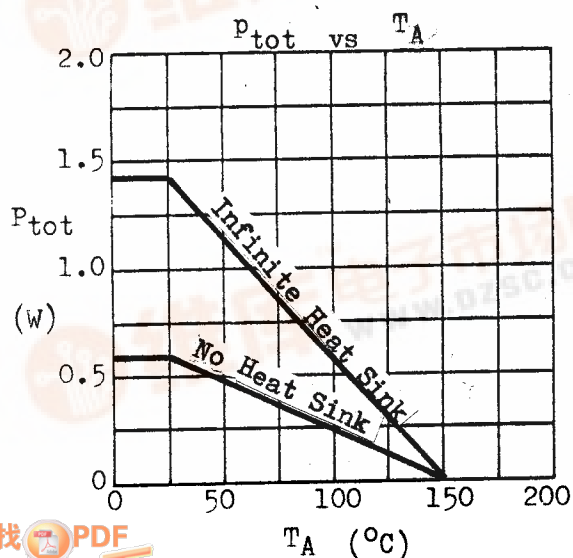
Collector-Emitter Voltage ($V_{BE}=0$)
 Collector-Emitter Voltage ($I_B=0$)
 Emitter-Base Voltage
 Collector Current
 Collector Peak Current ($t \leq 10\text{ms}$)
 Total Power Dissipation (@ $T_C \leq 25^\circ\text{C}$)
 (@ $T_A \leq 25^\circ\text{C}$)
 Operating Junction & Storage Temperature

	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°C

THERMAL RESISTANCE

Junction to Case
 Junction to Ambient

θ_{jc}	90°C/W	max.
θ_{ja}	200°C/W	max.



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			100	nA	$V_{CES}=45\text{V}$
								nA	$V_{CES}=25\text{V}$
				10			10	μA	$V_{CES}=45\text{V}$ $T_A=125^\circ\text{C}$
								μA	$V_{CES}=25\text{V}$ $T_A=125^\circ\text{C}$
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			$I_C=100\text{mA}$ $V_{CE}=1\text{V}$
		100	250		100	250			
		160	400		160	400			
		250	630		250	630			
		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%

