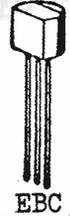


# BC 537 · BC 538

NPN SILICON AF MEDIUM POWER TRANSISTORS

THE BC537, BC538 ARE NPN SILICON PLANAR EPITAXIAL TRANSISTORS FOR USE IN AF DRIVER AND OUTPUT STAGES, AS WELL AS FOR UNIVERSAL APPLICATIONS. THE BC537, BC538 ARE COMPLEMENTARY TO THE PNP TYPE BC527, BC528 RESPECTIVELY.

CASE TO-92A



### ABSOLUTE MAXIMUM RATINGS

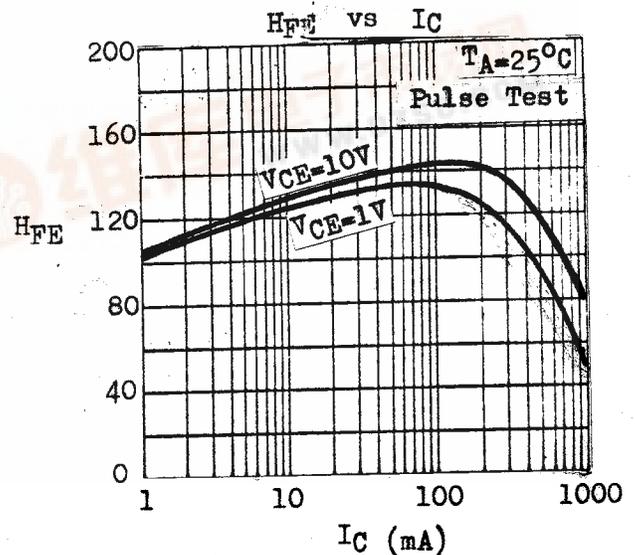
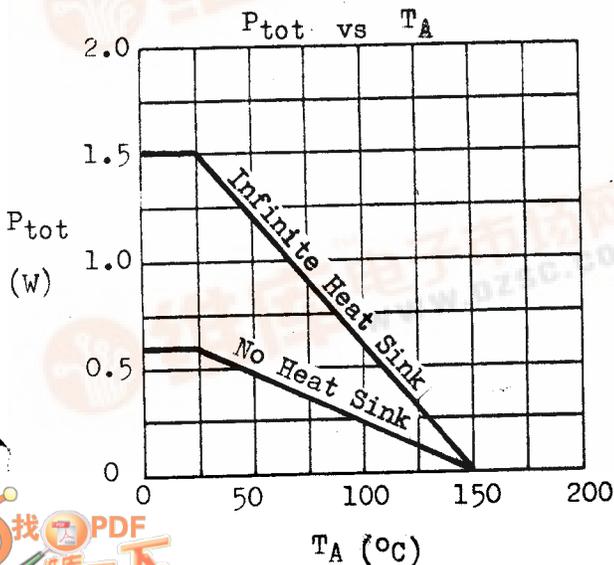
Collector-Base Voltage  
 Collector-Emitter Voltage  
 Emitter-Base Voltage  
 Collector Current  
 Collector Peak Current ( $t \leq 10\text{ms}$ )  
 Total Power Dissipation (@  $T_C \leq 25^\circ\text{C}$ )  
 (@  $T_A \leq 25^\circ\text{C}$ )  
 Operating Junction & Storage Temperature

	BC537	BC538
V <sub>CB0</sub>	60V	80V
V <sub>CE0</sub>	60V	80V
V <sub>EB0</sub>		6V
I <sub>C</sub>		1A
I <sub>CM</sub>		1.5A
P <sub>tot</sub>		1.5W
		625mW
T <sub>j</sub> , T <sub>stg</sub>	-55 to 150°C	

### THERMAL RESISTANCE

Junction to Case  
 Junction to Ambient

$\theta_{jc}$	83°C/W max.
$\theta_{ja}$	200°C/W max.



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

PARAMETER	SYMBOL	BC537		BC538		UNIT	TEST CONDITIONS	
		MIN	MAX	MIN	MAX			
Collector-Base Breakdown Voltage	$BV_{CBO}$	60		80		V	$I_C=0.1\text{mA}$ $I_E=0$	
Collector-Emitter Breakdown Voltage	$LV_{CEO} *$	60		80		V	$I_C=10\text{mA}$ $I_B=0$	
Emitter-Base Breakdown Voltage	$BV_{EBO}$	6		6		V	$I_E=0.01\text{mA}$ $I_C=0$	
Collector Cutoff Current	$I_{CBO}$		100			nA	$V_{CB}=40\text{V}$ $I_E=0$	
					100	nA	$V_{CB}=60\text{V}$ $I_E=0$	
Emitter Cutoff Current	$I_{EBO}$		100		100	nA	$V_{EB}=4\text{V}$ $I_C=0$	
Collector-Emitter Saturation Voltage	$V_{CE(sat)} *$		0.7		0.7	V	$I_C=500\text{mA}$ $I_B=50\text{mA}$	
			1.2		1.5	V	$I_C=1\text{A}$ $I_B=0.1\text{A}$	
Base-Emitter Saturation Voltage	$V_{BE(sat)} *$		1.3		1.3	V	$I_C=150\text{mA}$ $I_B=15\text{mA}$	
D.C. Current Gain	$H_{FE} *$	40	400	40	400		$I_C=100\text{mA}$ $V_{CE}=1\text{V}$	
		Group 6	40	100	40	100		
		Group 10	63	160	63	160		
		Group 16	100	250	100	250		
		Group 25	160	400	160	400		
		All Groups	50		50			$I_C=10\text{mA}$ $V_{CE}=10\text{V}$
		50		50		$I_C=150\text{mA}$ $V_{CE}=10\text{V}$		
		50		50		$I_C=500\text{mA}$ $V_{CE}=10\text{V}$		
		15		15		$I_C=1\text{A}$ $V_{CE}=10\text{V}$		
Current Gain-Bandwidth Product	$f_T$	100		100		MHz	$I_C=50\text{mA}$ $V_{CE}=10\text{V}$	
Collector-Base Capacitance	$C_{ob}$		15		15	pF	$V_{CB}=10\text{V}$ $I_E=0$ $f=1\text{MHz}$	

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

