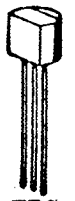
BC 537 · BC 538

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



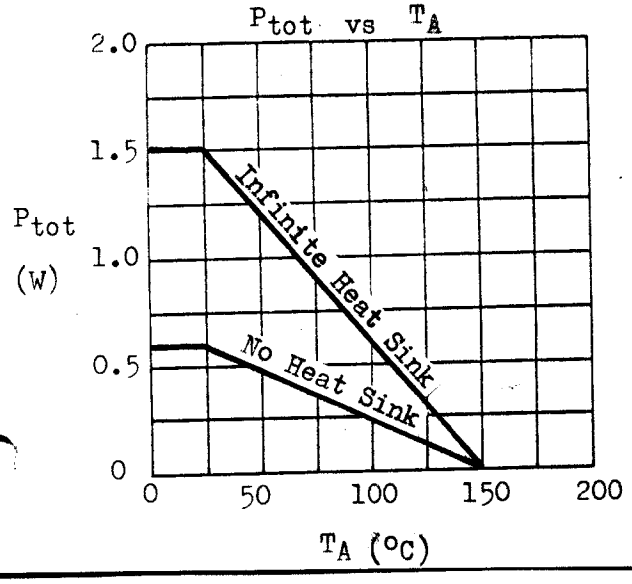
EBC

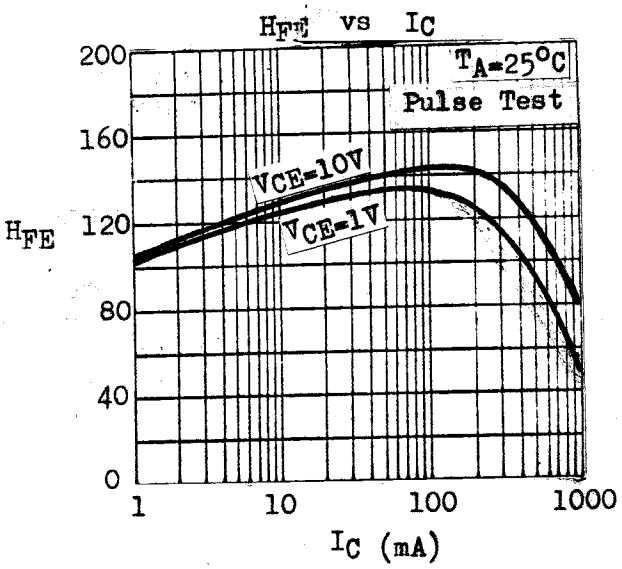
ABSOLUTE MAXIMUM RATINGS

		BC537	BC538
Collector-Base Voltage	V_{CBO}	60V	80V
Collector-Emitter Voltage	V_{CEO}	60V	80V
Emitter-Base Voltage	V_{EBO}	6V	
Collector Current	I_C	1A	
Collector Peak Current ($t \leqslant 10mS$)	I_{CM}	1.5A	
Total Power Dissipation (@ $T_C \leqslant 25^oC$)	P_{tot}	1.5W	
(@ $T_A \leqslant 25^oC$)		625mW	
Operating Junction & Storage Temperature	T_j, Tstg	-55 to 150°C	

THERMAL RESISTANCE

Junction to Case	θ_{jc}	83°C/W max.
Junction to Ambient	θ_{ja}	200°C/W max.





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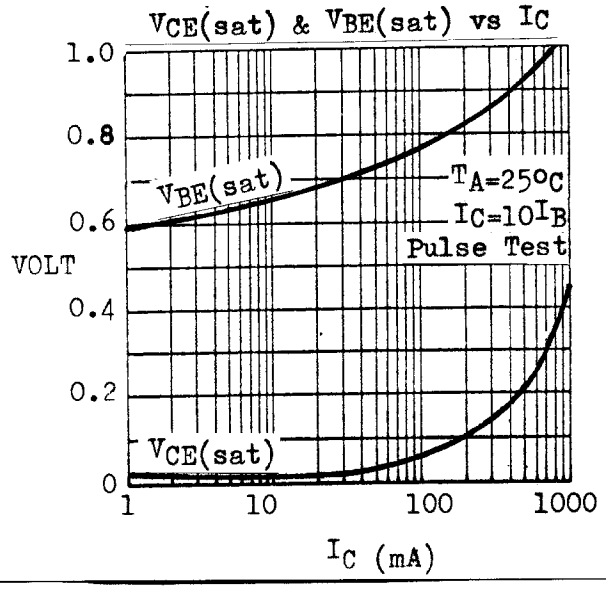
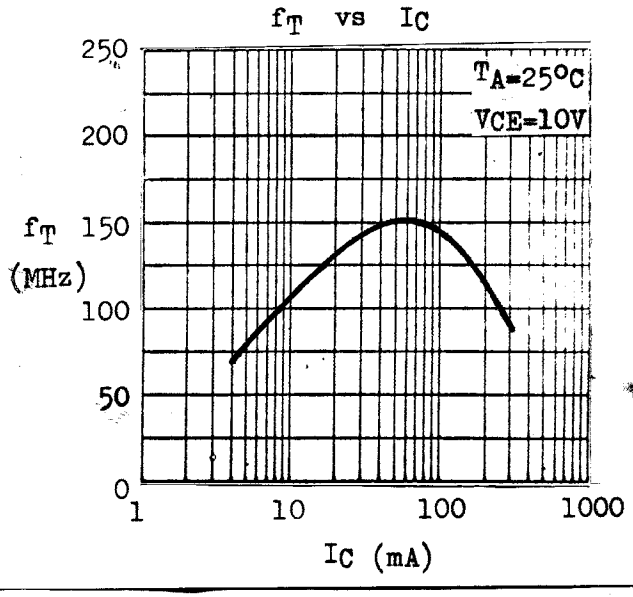
ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

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

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





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