# R.F. JUNCTION TRANSISTOR

OC170

R.F. junction transistor of the p-n-p alloy-diffused type intended for use as an r.f. amplifier or mixer oscillator in short-wave receivers or as an i.f. amplifier in a.m. and a.m./f.m. receivers.

B.217

interlead shield and metal case
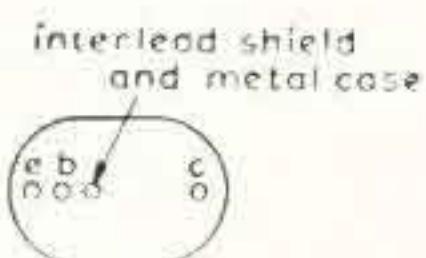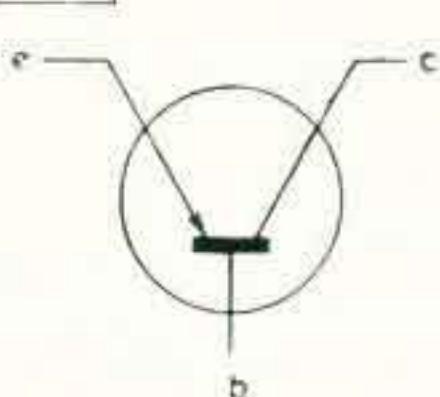
DIMENSIONS

Max. body length	9.5	mm
Max. diameter	9.1	mm
Min. lead length	37	mm

ABSOLUTE MAXIMUM RATINGS

Collector voltage

$V_{cb(pk)}$ max.	−20	V
V_{cb} max.	−20	V
*$V_{ce(pk)}$ max.	−20	V
*V_{ce} max.	−20	V

*This value applies when $\dfrac{R_b}{R_e} < 100$ and $R_e > 200\Omega$

Collector current

$i_{c(pk)}$ max.	10	mA
I_c max.	10	mA

Emitter current

$i_{e(pk)}$ max.	10	mA
I_e max.	10	mA

Reverse emitter current

$i_{e(pk)}$ max.	1.0	mA
I_e max.	1.0	mA

Total dissipation

$$\left(P_{tot}\ max. = \frac{T_{junction}\ max. - T_{ambient}}{\theta}\right)$$

Temperature ratings

Storage temperature limits	−55 to +75	°C
Maximum junction temperature		
Continuous operation	75	°C
‡Intermittent operation (total duration = 200 hours max.)	90	°C
Junction temperature rise above ambient, θ	0.6	°C/mW

‡Likelihood of full performance of a circuit at this temperature is also dependent on the type of application.

Mullard

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CHARACTERISTICS at $T_{ambient} = 25°C$

		Min.	Typical production spreads Typ.	Max.	
Collector leakage current	I_{co}				
$(V_{cb} = -6V, I_e = 0mA)$		—	1.5	13	μA
$(V_{cb} = -20V, I_e = 0mA)$		—	—	50	μA
Emitter leakage current					
$(V_{eb} = -500mV, I_c = 0mA)$	I_{eo}	—	—	50	μA
Base current					
$(V_{cb} = -6V, I_e = 1mA)$	I_b	—	15	50	μA
Base input voltage					
$(V_{cb} = -6V, I_e = 1mA)$	V_{be}	-210	-260	-330	mV
Current amplification cut-off frequency					
at $V_{ce} = -6V, I_e = 1mA$ ($|\alpha'| = 1$)	f_1	40	70	—	Mc/s
Current amplification factor					
$(V_{ce} = -6V, I_e = 1mA, f = 1kc/s)$	α'	20	100	—	
Noise figure					
$(V_{ce} = -6V, I_e = 1mA)$					
$R_{source} = 200\Omega, f = 500kc/s$		—	3.0	8.0	dB
$R_{source} = 150\Omega, f = 10Mc/s$		—	4.0	8.0	dB
$(V_{cb} = -6V, I_e = 1mA)$					
$R_{source} = 500\Omega, f = 1kc/s$		—	18	33	dB