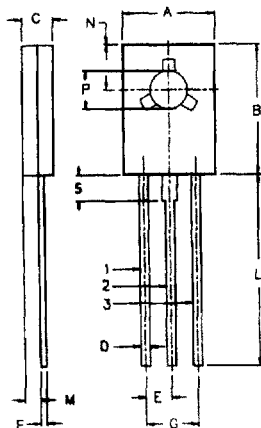
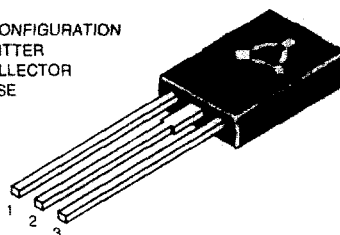


BF457, 458, 459 NPN PLASTIC POWER TRANSISTORS

Video Output Stages of TV Sets, for AF Output Stages with a High Operating Voltage and as Driver Transistors in Horizontal Deflection Circuit Applications

PIN CONFIGURATION

1. EMITTER
2. COLLECTOR
3. BASE



DIM	MIN.	MAX.
A	7.4	7.8
B	10.5	10.8
C	2.4	2.7
D	0.7	0.9
E	2.25 TYP.	
F	0.49	0.75
G	4.5 TYP.	
L	15.7 TYP.	
M	1.27 TYP.	
N	3.75 TYP.	
P	3.0	3.2
S	2.5 TYP.	

ALL DIMENSIONS IN MM

ABSOLUTE MAXIMUM RATINGS

		457	458	459	
Collector-base voltage (open emitter)	V_{CBO}	max. 160	250	300	V
Collector-emitter voltage (open base)	V_{CEO}	max. 160	250	300	V
Collector current	I_C	max. 100			mA
Total power dissipation up to $T_C = 45^\circ\text{C}$	P_{tot}	max. 10			W
Junction temperature	T_j	max. 150			$^\circ\text{C}$
Collector-emitter saturation voltage	V_{CEsat}	max. 1.0			V
$I_C = 30\text{mA}; I_B = 6\text{mA}$					
D.C. current gain	h_{FE}	min. 25			
$I_C = 30\text{mA}; V_{CE} = 10\text{V}$					

RATINGS (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Limiting values		457	458	459	
Collector-base voltage (open emitter)	V_{CBO}	max. 160	250	300	V
Collector-emitter voltage (open base)	V_{CEO}	max. 160	250	300	V
Emitter-base voltage (open collector)	V_{EBO}	max. 5.0			V
Collector current	I_C	max. 100			mA

Collector current (Peak value)	I_{CM}	max.	300	mA
Base current	I_B	max.	50	mA
Total power dissipation up to $T_C = 45^\circ\text{C}$	P_{tot}	max.	10	W
Total power dissipation up to $T_A = 25^\circ\text{C}$	P_{tot}	max.	1.2	W
Junction temperature	T_j	max.	150	$^\circ\text{C}$
Storage temperature	T_{stg}		-65 to +150	$^\circ\text{C}$

THERMAL RESISTANCE

From junction to case	$R_{th\ j-c}$		10	K/W
From junction to ambient	$R_{th\ j-a}$		104	K/W

CHARACTERISTICS

$T_{amb} = 25^\circ\text{C}$ unless otherwise specified

			457	458	459	
Collector cutoff current						
$I_E = 0; V_{CB} = 100\text{V}$	I_{CBO}	max.	50	-	-	nA
$I_E = 0; V_{CB} = 200\text{V}$	I_{CBO}	max.	-	50	-	nA
$I_E = 0; V_{CB} = 250\text{V}$	I_{CBO}	max.	-	-	50	nA
Emitter cut-off current						
$I_C = 0; V_{EB} = 3\text{V}$	I_{EBO}	max.		50		nA
Breakdown voltages						
$I_C = 10\text{ mA}; I_B = 0$	V_{CEO}	min.	160	250	300	V
$I_C = 100\text{ }\mu\text{A}; I_E = 0$	V_{CBO}	min.	160	250	300	V
$I_E = 100\text{ }\mu\text{A}; I_C = 0$	V_{EBO}	min.		5.0		V
Saturation voltage						
$I_C = 30\text{ mA}; I_B = 6\text{ mA}$	V_{CEsat}	max.		1.0		V
D.C. current gain						
$I_C = 30\text{ mA}; V_{CE} = 10\text{ V}$	h_{FE}	min.		25		
Output capacitance at $f = 1\text{ MHz}$						
$I_E = 0; V_{CB} = 30\text{V}$	C_o	typ		5.5		pF
Transition frequency $f = 20\text{ MHz}$						
$I_C = 15\text{ mA}; V_{CE} = 10\text{ V}$	f_T	typ.		90		MHz
Feedback capacitance $f = 1\text{ MHz}$						
$I_C = 1\text{ mA}; V_{CE} = 30\text{V}$	C_{re}	typ.		4.2		pF