

isc Silicon NPN Power Transistor

BF457/458/459

DESCRIPTION

- Collector-Emitter Breakdown Voltage-
: $V_{CEO(BR)} = 160V(\text{Min})$ - BF457
250V(Min)- BF458
300V(Min)- BF459
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

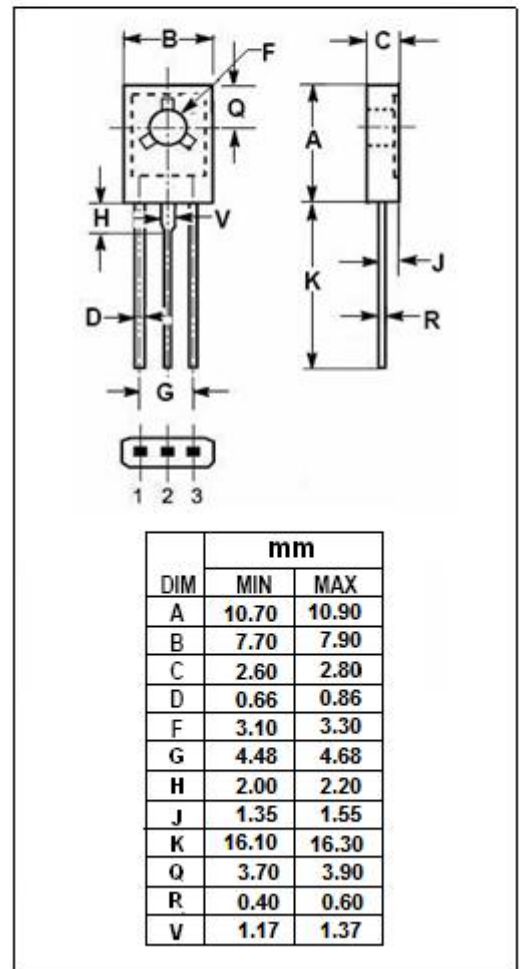
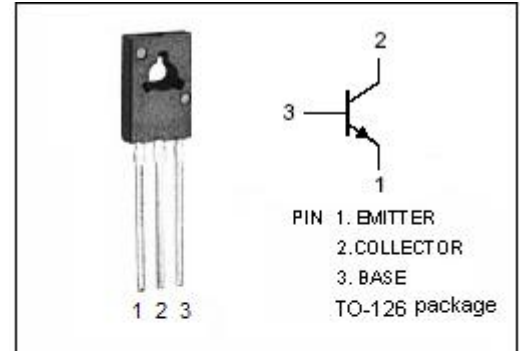
- Intended for video output stages in colour and black And white TV receivers

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER		VALUE	UNIT
V_{CBO}	Collector-Base Voltage	BF457	160	V
		BF458	250	
		BF459	300	
V_{CEO}	Collector-Emitter Voltage	BF457	160	V
		BF458	250	
		BF459	300	
V_{EBO}	Emitter-Base Voltage		5	V
I_{CM}	Collector Current-Peak		300	mA
I_{BM}	Base Current-Peak		50	mA
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$		1.25	W
T_J	Junction Temperature		150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range		-55~150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j-c}$	Thermal Resistance, Junction to Case	10	$^\circ\text{C/W}$



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER		CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	BF457	$I_C = 10\text{mA} ; I_B = 0$	160			V
		BF458		250			
		BF459		300			
$V_{(BR)EBO}$	Collector-Base Breakdown Voltage		$I_C = 0 ; I_E = 100\mu\text{A}$	5			V
I_{CBO}	Collector Cutoff Current	BF457	$V_{CB} = 160\text{V}$			50	nA
		BF458	$V_{CB} = 200\text{V}$			50	
		BF459	$V_{CB} = 250\text{V}$			50	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage		$I_C = 50\text{mA} ; I_B = 10\text{mA}$			1.0	V
h_{FE}	DC Current Gain		$I_C = 30\text{mA} ; V_{CE} = 10\text{V}$	30	80		
C_{re}	Reverse Capacitance		$I_C = 0 ; V_{CE} = 30\text{V}, f=1\text{MHz}$		4		pF
C_{OB}	Output Capacitance		$I_C = 0 ; V_{CE} = 30\text{V}, f=1\text{MHz}$		5		pF
f_T	Current-Gain—Bandwidth Product		$I_C = 30\text{mA} ; V_{CE} = 10\text{V},$		90		MHz

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