

isc Silicon PNP Power Transistors

BD376/378/380

DESCRIPTION

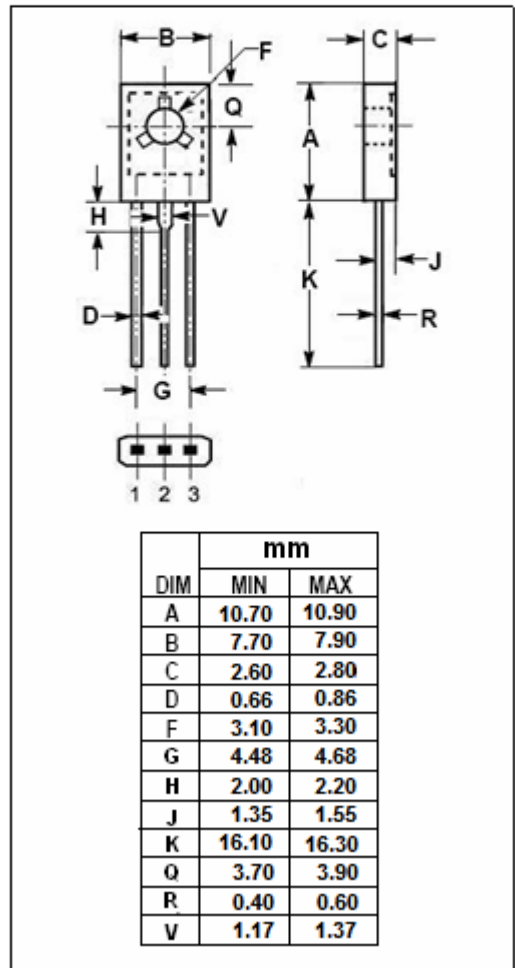
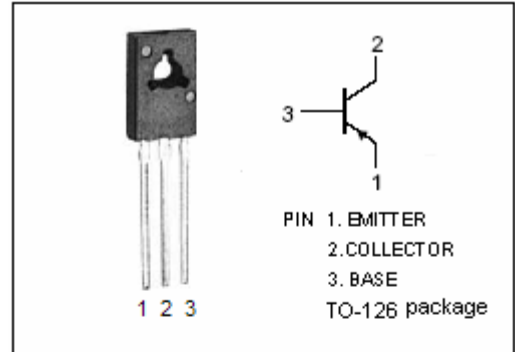
- DC Current Gain-
: $h_{FE} = 20(\text{Min}) @ I_C = -1\text{A}$
- Complement to Type BD375/377/379

APPLICATIONS

- Designed for medium power linear and switching applications

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

SYMBOL	PARAMETER	VALUE	UNIT	
V_{CBO}	Collector-Base Voltage	BD376	-50	V
		BD378	-75	
		BD380	-100	
V_{CEO}	Collector-Emitter Voltage	BD376	-45	V
		BD378	-60	
		BD380	-80	
V_{EBO}	Emitter-Base Voltage	-5	V	
I_C	Collector Current-Continuous	-2	A	
I_{CM}	Collector Current-Peak	-3	A	
I_B	Base Current-Continuous	-1	A	
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	25	W	
T_J	Junction Temperature	150	$^\circ\text{C}$	
T_{stg}	Storage Temperature Range	-55~150	$^\circ\text{C}$	



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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT		
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	BD376	$I_C = -100\text{mA}; I_B = 0$	-45			V	
		BD378		-60				
		BD380		-80				
V_{CBO}	Collector-Base Voltage	BD376	$I_C = -0.1\text{mA}; I_E = 0$	-50			V	
		BD378		-75				
		BD380		-100				
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -1\text{A}; I_B = -0.1\text{A}$			-1.0	V		
$V_{BE(on)}$	Base-Emitter On Voltage	$I_C = -1\text{A}; V_{CE} = -2\text{V}$			-1.5	V		
I_{CBO}	Collector Cutoff Current	BD376	$V_{CB} = -45\text{V}; I_E = 0$			-2	μA	
		BD378		$V_{CB} = -60\text{V}; I_E = 0$				-2
		BD380		$V_{CB} = -80\text{V}; I_E = 0$				-2
I_{EBO}	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-0.1	mA		
h_{FE-1}	DC Current Gain	$I_C = -0.15\text{A}; V_{CE} = -2\text{V}$	40		375			
h_{FE-2}	DC Current Gain	$I_C = -1\text{A}; V_{CE} = -2\text{V}$	20					

Switching Times

t_{on}	Turn-On Time	$I_C = -0.5\text{A}; I_{B1} = -I_{B2} = -50\text{mA}; V_{CC} = -30\text{V}$		0.05		μs
t_{off}	Turn-Off Time			0.5		μs

◆ h_{FE-1} Classifications

6	10	16	25
40-100	63-160	100-250	150-375