

Silicon NPN Transistor

BD375

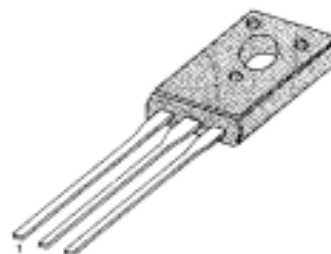
DATASHEET

Medium Power And Switching Applications

Technical Data (Short Form):

Case: TO-126

Ucb	-	50V
Uce	-	45V
Ic	-	2A
N	-	25W
F	-	-
hFE	-	40-375



1. Emitter 2. Collector 3. Base

OEM: Samsung

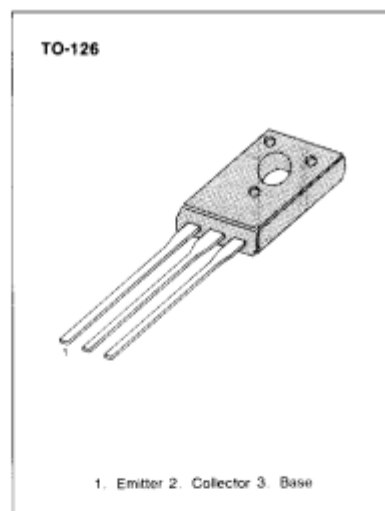
Source: Samsung CD 1995

MEDIUM POWER LINEAR AND SWITCHING APPLICATIONS

• Complement to BD376, BD378 and BD380 respectively

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

Characteristic	Symbol	Rating	Unit
Collector Base Voltage : BD375	V_{CBO}	50	V
: BD377		75	V
: BD379		100	V
Collector Emitter Voltage: BD375	V_{CEO}	45	V
: BD377		60	V
: BD379		80	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	2	A
Collector Current (Pulse)	I_C	3	A
Base Current	I_B	1	A
Collector Dissipation ($T_c = 25^\circ\text{C}$)	P_C	25	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~ 150	$^\circ\text{C}$



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
*Collector Emitter Sustaining Voltage: BD375	$V_{CE(sus)}$	$I_C = 100\text{mA}, I_B = 0$	45			V
: BD377			60			V
: BD379			80			V
Collector Base Voltage	V_{CBO}	$I_C = 100\mu\text{A}, I_E = 0$	50			V
: BD377			75			V
: BD379			100			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 45\text{V}, I_E = 0$			2	μA
: BD375		$V_{CB} = 60\text{V}, I_E = 0$			2	μA
: BD377		$V_{CB} = 80\text{V}, I_E = 0$			2	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$			100	μA
*DC Current Gain	h_{FE1}	$V_{CE} = 2\text{V}, I_C = 0.15\text{A}$	40		375	
	h_{FE2}	$V_{CE} = 2\text{V}, I_C = 1\text{A}$	20			
*Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1\text{A}, I_B = 0.1\text{A}$			1	V
*Base Emitter On Voltage	$V_{BE(on)}$	$V_{CE} = 2\text{V}, I_C = 1\text{A}$			1.5	V
Turn On Time	t_{on}	$V_{OC} = 30\text{V}, I_C = 0.5\text{A}$ $I_B1 = 0.05\text{A}$		50		nS
Turn Off Time	t_{off}	$V_{OC} = 30\text{V}, I_C = 0.5\text{A}$ $I_B1 = -I_B2 = 0.05\text{A}$		500		nS

*Pulse Test: $PW = 300\mu\text{S}$, duty cycle = 2% pulsed

h_{FE} (1) CLASSIFICATION

Classification	6	10	16	25
h_{FE1}	40-100	63-160	100-250	150-375

