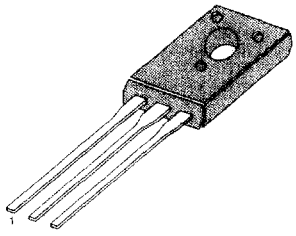
MEDIUM POWER LINEAR AND SWITCHING APPLICATIONS

• Complement to BD376, BD378 and BD380 respectively

TO-126



1.Emitter 2.Collector 3.Base

ABSOLUTE MAXIMUM RATINGS

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℃)		P_C	25	W
Junction Temperature		T_J	150	℃
Storage Temperature		T_{STG}	-55~150	℃

ELECTRICAL CHARACTERISTICS (T_C =25℃)

Characteristic		Symbol	Test Conditions	Min	Typ	Max	Unit
* Collector Emitter Sustaining Voltage	: BD375	V_{CEO}(sus)	I_C = 100mA, I_B = 0	45			V
	: BD377			60			V
	: BD379			80			V
Collector Base Voltage	: BD375	V_{CBO}	I_C = 100uA, I_E = 0	50			V
	: BD377			75			V
	: BD379			100			V
Collector Cutoff Current	: BD375	I_{CBO}	V_{CB} = 45V, I_E = 0			2	uA
	: BD377		V_{CB} = 60V, I_E = 0			2	uA
	: BD379		V_{CB} = 80V, I_E = 0			2	uA
Emitter Cutoff Current		I_{EBO}	V_{EB} = 5V, I_C = 0			100	uA
* DC Current Gain		h_{FE1}	V_{CE} = 2V, I_C = 0.15A	40		375	
		h_{FE2}	V_{CE} = 2V, I_C = 1A	20			
* Collector Emitter Saturation Voltage		V_{CE}(sat)	I_C = 1A, I_B = 0.1A			1	V
* Base Emitter On Voltage		V_{BE}(on)	V_{CE} = 2V, I_C = 1A			1.5	V
Turn on Time		t_{ON}	V_{CC} = 30V, I_C = 0.5A I_{B1} = 0.05A		50		nS
Turn Off Time		t_{OFF}	V_{CC} = 30V, I_C = 0.5A I_{B1} = - I_{B2} = 0.05A		500		nS

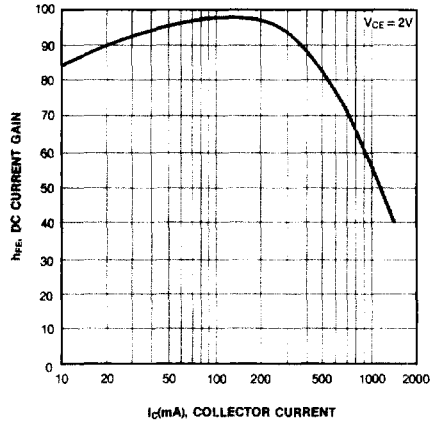
* Pulse Test : PW=350uS, duty Cycle≤2% Pulsed

h_{FE}(1) CLASSIFICATION

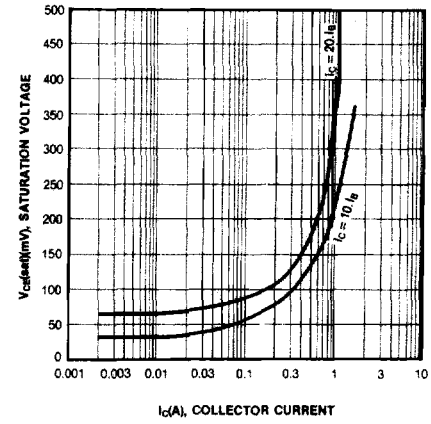
Classification	6	10	16	25
h_{FE}1	40 - 100	63 - 160	100 - 250	150 - 375

SAMSUNG ELECTRONICS

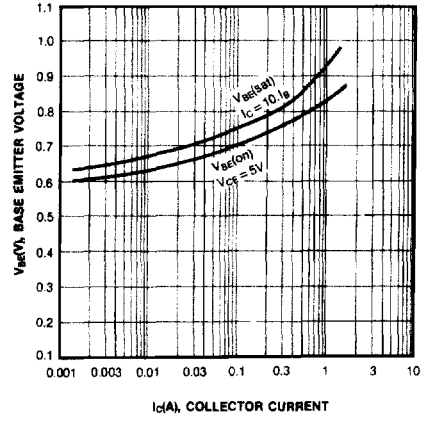
DC CURRENT GAIN



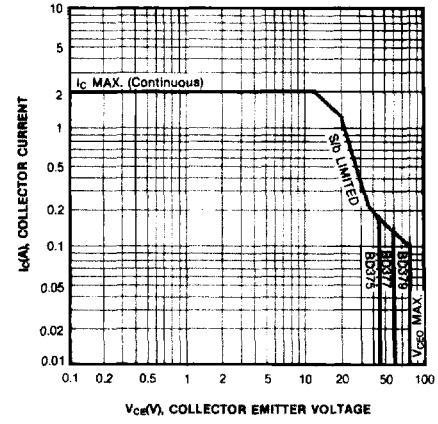
COLLECTOR EMITTER SATURATION VOLTAGE



BASE EMITTER VOLTAGE



SAFE OPERATING AREA



POWER DERATING