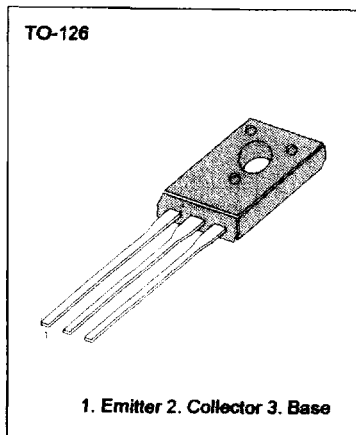


**MEDIUM POWER DARLINGTON TR
MEDIUM POWER LINEAR AND SWITCHING
APPLICATIONS**

• Complement to BD676A, BD678A, BD680A and BD682 respectively

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage	:BD675A	V_{CBO}	45 V
	:BD677A		60 V
	:BD679A		80 V
	:BD681		100 V
Collector Emitter Voltage	:BD675A	V_{CEO}	45 V
	:BD677A		60 V
	:BD679A		80 V
	:BD681		100 V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	4	A
Collector Current (Pulse)	I_C	6	A
Base Current	I_B	100	mA
Collector Dissipation ($T_C=25^\circ\text{C}$)	P_C	40	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-65 ~ 150	$^\circ\text{C}$

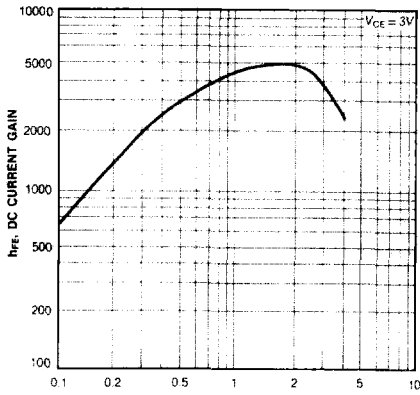


ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$)

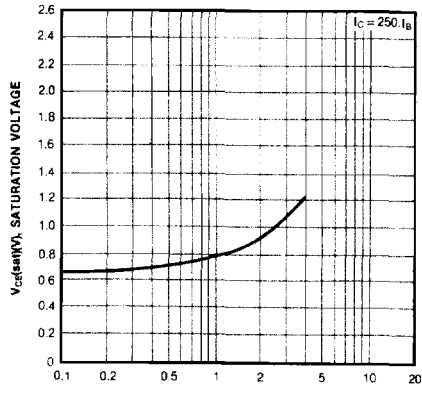
Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
*Collector Emitter Sustaining Voltage : BD675A	$V_{CEO(sus)}$	$I_C = 50\text{mA}, I_B = 0$	45			V
			60			V
			80			V
			100			V
Collector Base Voltage	I_{CBO}	$V_{CB} = 45\text{V}, I_E = 0$			200	μA
		$V_{CB} = 60\text{V}, I_E = 0$			200	μA
		$V_{CB} = 80\text{V}, I_E = 0$			200	μA
		$V_{CB} = 100\text{V}, V_{BE} = 0$			200	μA
Collector Cutoff Current	I_{CEO}	$V_{CE} = 45\text{V}, V_{BE} = 0$			500	μA
		$V_{CE} = 60\text{V}, V_{BE} = 0$			500	μA
		$V_{CE} = 80\text{V}, V_{BE} = 0$			500	μA
		$V_{CE} = 100\text{V}, V_{BE} = 0$			500	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$			2	mA
*DC Current Gain : BD675A/677A/679A	h_{FE}	$V_{CE} = 3\text{V}, I_C = 2\text{A}$	750			
		$V_{CE} = 3\text{V}, I_C = 1.5\text{A}$	750			
*Collector Emitter Saturation Voltage :	$V_{CE(sat)}$	$I_C = 2\text{A}, I_B = 40\text{mA}$			2.8	V
		$I_C = 1.5\text{A}, I_B = 30\text{mA}$			2.5	V
*Base Emitter On Voltage : BD675A/677A/679A	$V_{BE(on)}$	$V_{CE} = 3\text{V}, I_C = 2\text{A}$			2.5	V
		$V_{CE} = 3\text{V}, I_C = 1.5\text{A}$			2.5	V

* Pulse Test : PW=300 μs , duty Cycle=1.5% Pulsed

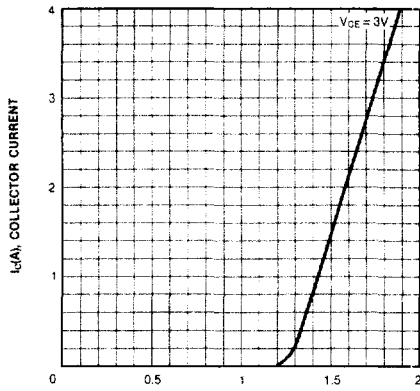
DC CURRENT GAIN



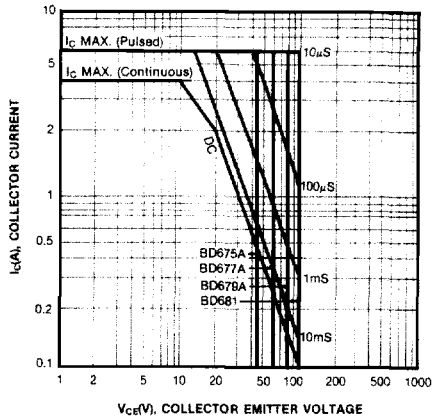
COLLECTOR EMITTER SATURATION VOLTAGE



BASE EMITTER VOLTAGE



SAFE OPERATING AREA



POWER DERATING

