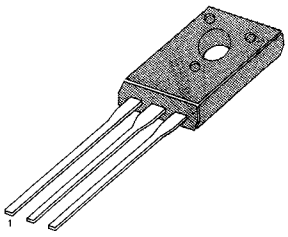
BD440/442 PNP EPITAXIAL SILICON TRANSISTOR

MEDIUM POWER LINEAR AND SWITCHING APPLICATIONS

- Complement to BD439, BD441 respectively

TO-126



1. Emitter 2.Collector 3.Base

ABSOLUTE MAXIMUM RATINGS

Characteristic		Symbol	Rating	Unit
Collector Base Voltage	: BD440	V_{CBO}	- 60	V
	: BD442		- 80	V
Collector Emitter Voltage	: BD440	V_{CES}	- 60	V
	: BD442		- 80	V
Collector Emitter Voltage	: BD440	V_{CEO}	- 60	V
	: BD442		- 80	V
Emitter Base Voltage		V_{EBO}	- 5	V
Collector Current (DC)		I_C	- 4	A
Collector Current (Pulse)		I_C	- 7	A
Base Current		I_B	- 1	A
Collector Dissipation (T_C=25℃)		P_C	36	W
Junction Temperature		T_J	150	℃
Storage Temperature		T_{STG}	-65 ~1 50	℃

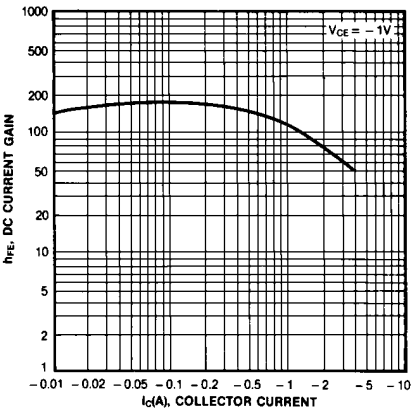
ELECTRICAL CHARACTERISTICS (T_C=25℃)

Characteristic		Symbol	Test Condition	Min	Typ	Max	Unit
Collector Emitter Sustaining Voltage	: BD440	V_{CEO}(sus)	I_C = - 100mA, I_B = 0	-60			V
	: BD442			-80			V
Collector Cutoff Current	: BD440	I_{CBO}	V_{CB} = - 60V, I_E = 0			- 100	uA
	: BD442		V_{CB} = - 80V, I_E = 0			- 100	uA
Collector Cutoff Current	: BD440	I_{CES}	V_{CE} = - 60V, V_{BE} = 0			- 100	uA
	: BD442		V_{CE} = - 80V, V_{BE} = 0			- 100	uA
Emitter Cutoff Current		I_{EBO}	V_{EB} = - 5V, I_C = 0			- 1	mA
*DC Current Gain	: BD440	h_{FE}	V_{CE} = - 5V, I_C = - 10mA	20	140		
	: BD442			15	140		
	: BD440		V_{CE} = - 1V, I_C = - 500mA	40	140		
	: BD442			40	140		
	: BD440		V_{CE} = - 1V, I_C = - 2A	25			
	: BD442			15			
* Collector Emitter Saturation Voltage		V_{CE}(sat)	I_C = - 2A, I_B = - 0.2A			- 0.8	V
* Base Emitter On Voltage		V_{BE}(on)	V_{CE} = - 5V, I_C = - 10mA		-0.58		V
			V_{CE} = -1 V, I_C = - 2A			- 1.5	V
Transition Frequency		f_T	V_{CE} = - 1V, I_C = - 250mA	3			MHz

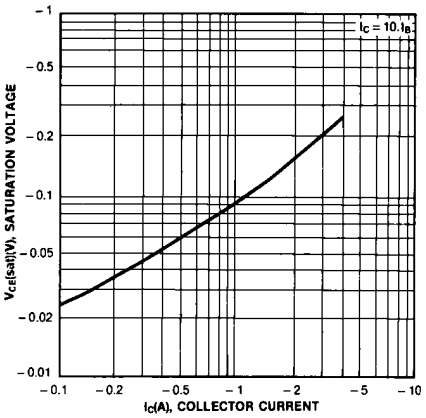
* Pulse Test : PW=300uS, duty Cycle=1.5% Pulsed

SAMSUNG ELECTRONICS

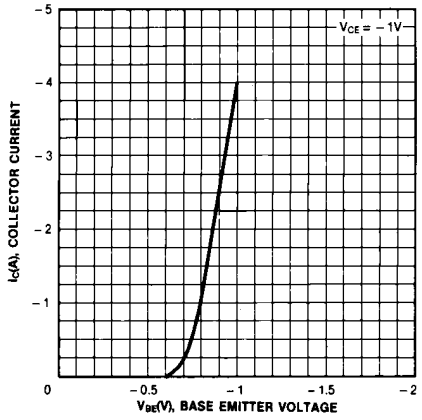
DC CURRENT GAIN



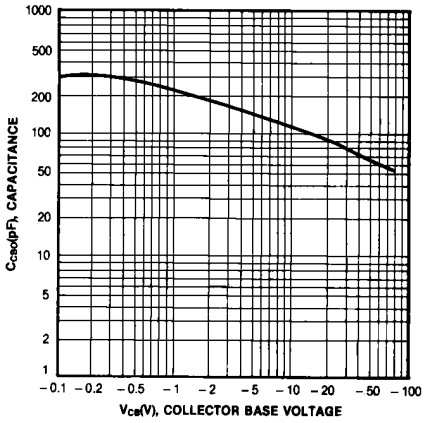
COLLECTOR EMITTER SATURATION VOLTAGE



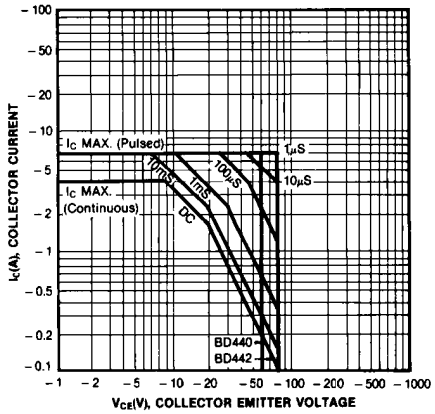
BASE EMITTER VOLTAGE



COLLECTOR BASE CAPACITANCE



SAFE OPERATING AREA



POWER DERATING