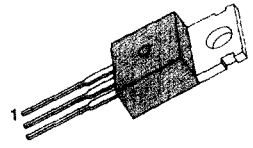
NPN EPITAXIAL SILICON TRANSISTOR

MEDIUM POWER LINEAR SWITCHING APPLICATIONS

- Complement to TIP42/42A/42B/42C

TO-220



1. Base 2. Collector 3. Emitter

ABSOLUTE MAXIMUM RATINGS

Characteristic		Symbol	Rating	Unit
Collector Emitter Voltage	: TIP41	V_{CBO}	40	V
	: TIP41A		60	V
	: TIP41B		80	V
	: TIP41C		100	V
Collector Emitter Voltage	: TIP41	V_{CEO}	40	V
	: TIP41A		60	V
	: TIP41B		80	V
	: TIP41C		100	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current (DC)		I_C	6	A
Collector Current (Pulse)		I_C	10	A
Base Current		I_B	2	A
Collector Dissipation (T_C≈25℃)		P_C	65	W
Collector Dissipation (T_A≈25℃)		P_C	2	W
Junction Temperature		T_J	150	℃
Storage Temperature		T_{STG}	-65 ~ 150	℃

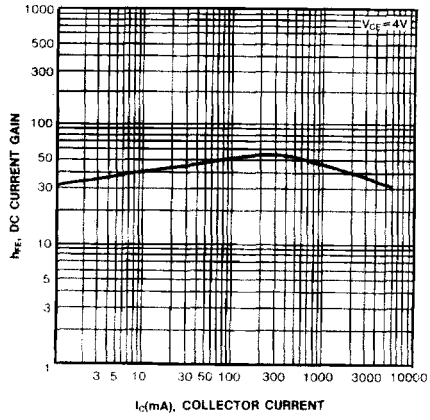
ELECTRICAL CHARACTERISTICS (T_C =25℃)

Characteristic		Symbol	Test Conditions	Min	Max	Unit
*Collector Emitter Sustaining Voltage	: TIP41	BV_{CEO}(sus)	I_C = 30mA, I_B = 0	40		V
	: TIP41A			60		V
	: TIP41B			80		V
	: TIP41C			100		V
Collector Cutoff Current	: TIP41/41A	I_{CEO}	V_{CE} = 30V, I_B = 0		0.7	mA
	: TIP41B/41C		V_{CE} = 60V, I_B = 0		0.7	mA
Collector Cutoff Current	: TIP41	I_{CES}	V_{CE} = 40V, V_{EB} = 0		400	uA
	: TIP41A		V_{CE} = 60V, V_{EB} = 0		400	uA
	: TIP41B		V_{CE} = 80V, V_{EB} = 0		400	uA
	: TIP41C		V_{CE} = 100V, V_{EB} = 0		400	uA
Emitter Cutoff Current		I_{EBO}	V_{EB} = 5V, I_C = 0		1	mA
*DC Current Gain		h_{FE}	V_{CE} = 4V, I_C = 0.3A	30		
			V_{CE} = 4V, I_C = 3A	15	75	
*Collector-Emitter Saturation Voltage		V_{CE}(sat)	I_C = 6A, I_B = 600mA		1.5	V
*Base-Emitter Saturation Voltage		V_{BE}(on)	V_{CE} = 4V, I_C = 6A		2.0	V
Current Gain Bandwidth Product		f_T	V_{CE} = 10V, I_C = 500mA f = 1MHz	3.0		MHz

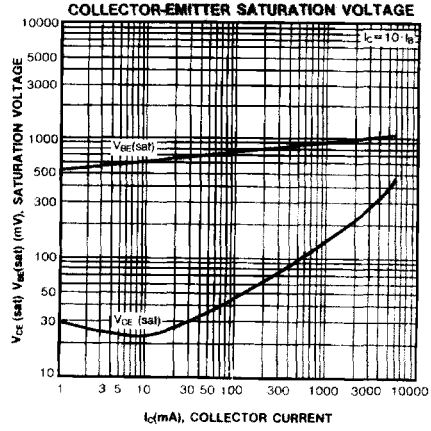
* Pulse Test : PW≤300μs, Duty Cycle≤2%

SAMSUNG ELECTRONICS

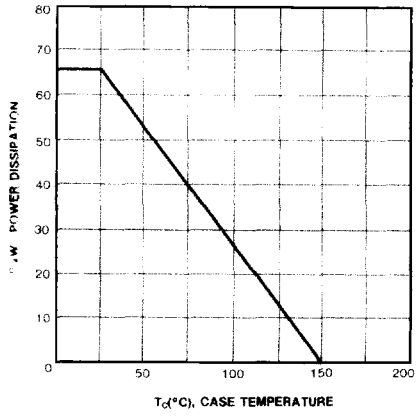
DC CURRENT GAIN



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



POWER DERATING



SAFE OPERATING AREA