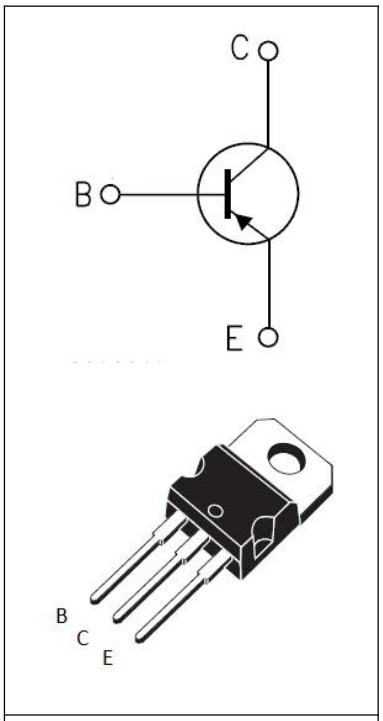
TIP42C

TIP42C, the base island technology PNP power transistor, make this device suitable for audio,power linear and switching applications.The complementary NPN type is TIP41C



TO-220W

Features

- Complementary PNP-NPN TIP42C devices
- h_{FE} grouping
- h_{FE} improved linearity
- RoHS product

Applications

- General purpose circuits
- Audio amplifier
- Power linear and switching

Absolute Maximum Ratings (T_a=25℃ unless otherwise noted):

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-100	V
Collector-Emitter Voltage	V_{CEO}	-100	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current(DC)	I_C	-6	A
Collector Peak Current(tp<5ms)	I_{CM}	-10	A
Base Current(DC)	I_B	-2	A
Base Peak Current(tp<5ms)	I_{BM}	-4	A
Collector Power Dissipation	P_C	65	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{STG}	-65~150	℃

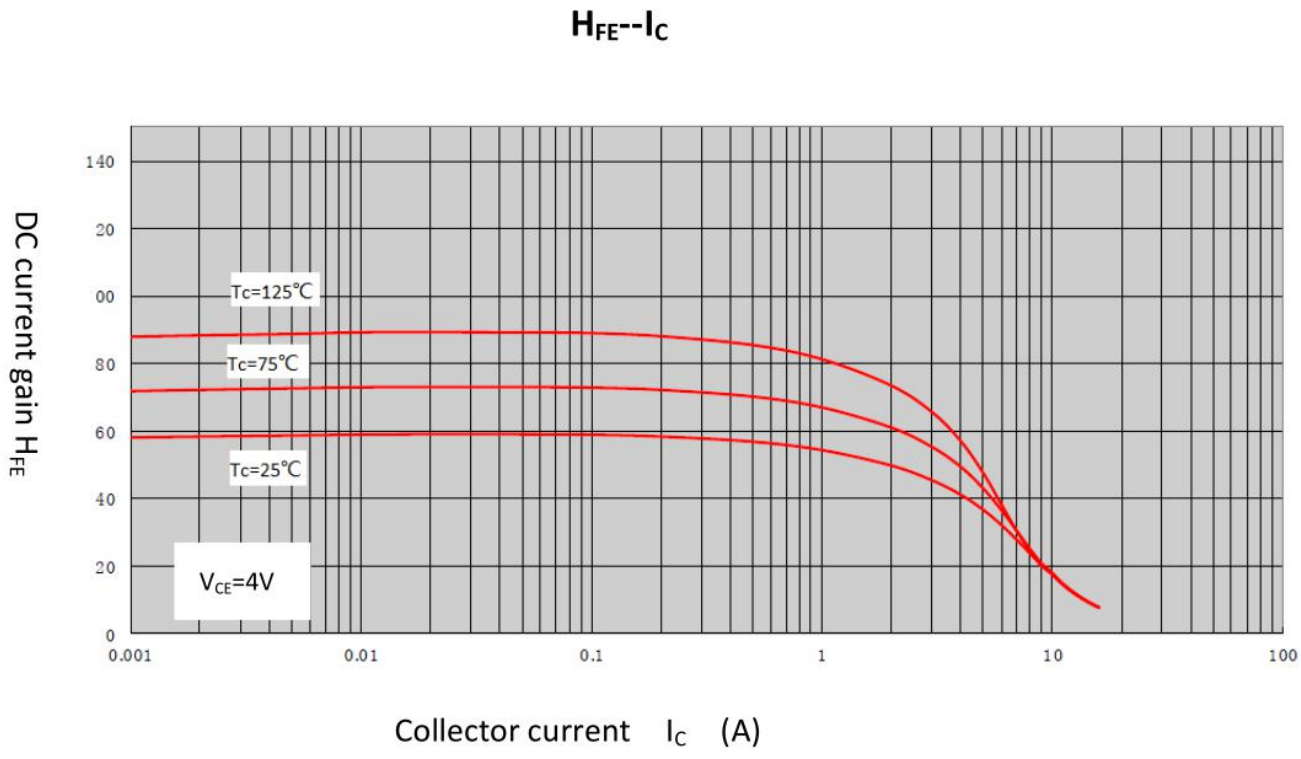
Electrical Characteristics (T_a=25℃ unless otherwise noted):

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Cut-off Current	I_{CBO}	V_{CB}=-100V,I_E=0			-0.4	mA
Collector-Emitter Cut-off Current	I_{CEO}	V_{CE}=-100V,I_B=0			-0.4	mA
Emitter-Base Cut-off Current	I_{EBO}	V_{EB}=-5V,I_C=0			-8.0	mA
Collector-Base Breakdown Voltage	V_{CBO}	I_C=-0.1mA	-100			V
Collector-Emitter Breakdown Voltage	V_{CEO}	I_C=-1mA	-100			V
Emitter-Base Breakdown Voltage	V_{EBO}	I_E=-100uA	-5			V
DC Current Gain	h_{FE1}	V_{CE}=-5V, I_C=-1A	40			
	h_{FE2}	V_{CE}=-5V, I_C=-3A	15		75	
Collector-Emitter Saturation Voltage	V_{CEsat}	I_C=-6A,I_B=-0.6A			-1.5	V
Transition Frequency	f_T	V_{CE}=-10V,I_{CE}=-0.5A	3			Mhz

Thermal Characteristics

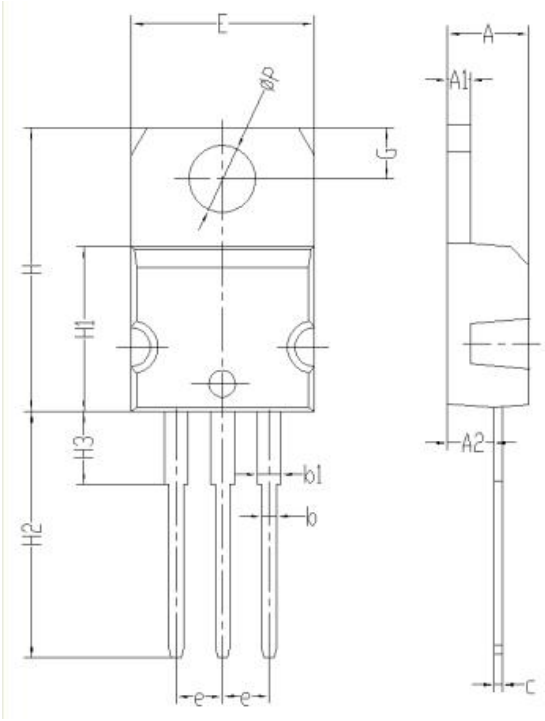
Symbol	Parameter	Typ.	Units
$R_{\theta JC}$	Junction-to-Case	2.0	℃/W

Typical Characteristics



Package Information

TO-220M PACKAGE



Symbol	Dimensions (millimeters)	
	Min.	Max.
A	4.05	4.45
A1	1.05	1.45
A2	2.35	2.75
b	0.60	1.00
b1	1.12	1.52
c	0.25	0.65
e	2.34	2.74
E	9.95	10.4
H	15.3	15.7
H1	8.80	9.20
H2	13.0	14.0
H3	3.80	4.20
G	2.60	3.00
ΦP	3.60	4.00