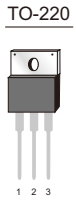
SEMICONDUCTOR

TIP41C

NPN Epitaxial Silicon Transistors

FEATURES

- Low saturation voltage
- High current output up to 6A
- Complementary to TIP42C
- High Stability and High Reliability



MECHANICAL DATA

- Case:TO-220Package
- Terminals:Plated solderable per MIL-STD-750,method 2026
- Mounting Position: Any

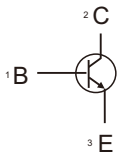


Table1 Absolute Maximum Ratings (T_C=25°C, unless otherwise specified)

Parameter	Symbol	Unit	Value
Collector-Emitter Voltage	V_{CEO}	V	100
Collector-Base Voltage	V_{CBO}	V	100
Emitter-Base Voltage	V_{EBO}	V	5.0
Collector Current (DC)	I_C	A	6
Collector Current (Pulse)	I_{CP}	A	10
Base Current (DC)	I_B	A	2
Power Dissipation T_C=25°C	P_D	W	65
Operation Junction Temperature	T_J	℃	-55 to +150
Storage Temperature	T_{STG}	℃	-55 to +150

Table 2.Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal resistance Junction to Case	$R_{\theta JC}$	2.5	°C/W

ELECTRICAL CHARACTERISTICS(T_C=25°C Unless otherwise specified)

Parameter	Symbol	Unit	Conditions	Min	Max
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	V	I_C=10mA,I_B=0	100	---
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	V	I_C=100μA,I_E=0	100	---
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	V	I_E=100μA,I_C=0	5.0	---
Collector cut-off Current	I_{CEO}	μA	V_{CE}=100V,I_B=0	---	100
Collector -emitter cut-off Current	I_{CES}	μA	V_{CE}=100V	---	100
Emitter cut-off Current	I_{EBO}	μA	V_{EB}=5V,I_C=0	---	100
DC Current Gain	$h_{FE(1)}$		I_C=10mA,V_{CE}=5V	30	300
	$h_{FE(2)}$		I_C=1A,V_{CE}=5V	60	200
	$h_{FE(3)}$		I_C=3A,V_{CE}=5V	15	300
Collector-Emitter Saturation Voltage	VCE(sat)	V	I_C=1A,I_B=100mA	---	0.40
			I_C=3A,I_B=300mA	---	0.60
			I_C=6A,I_B=600mA	---	1.20
Base-Emitter Saturation Voltage	VBE(sat)	V	I_C=6A,I_B=600mA	---	1.50
Transition frequency	f_T	MHZ	I_C=500mA,V_{CE}=-10V f=10MHZ	3	---

CLASSIFICATION OF $h_{FE(2)}$

h_{FE}	60-200					
Rank	1	2	3	4	5	6
Range	60-80	80-100	100-120	120-140	140-160	160-200

Characteristics(Typical)

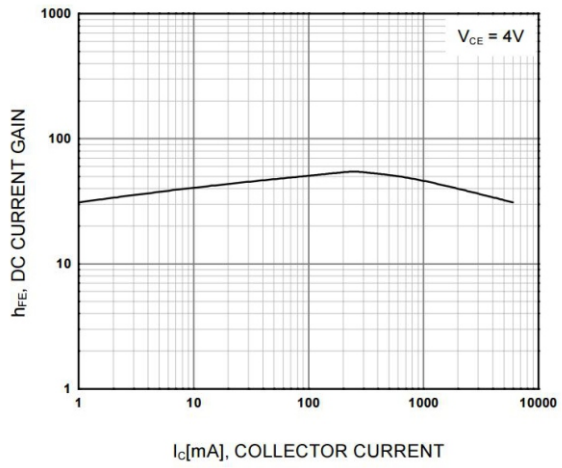


Figure 1. DC current Gain

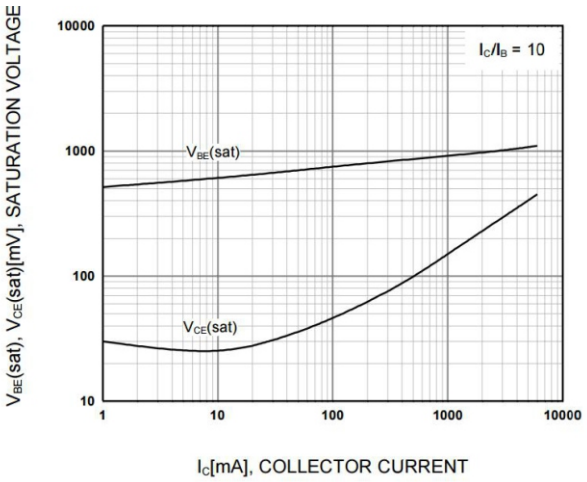


Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

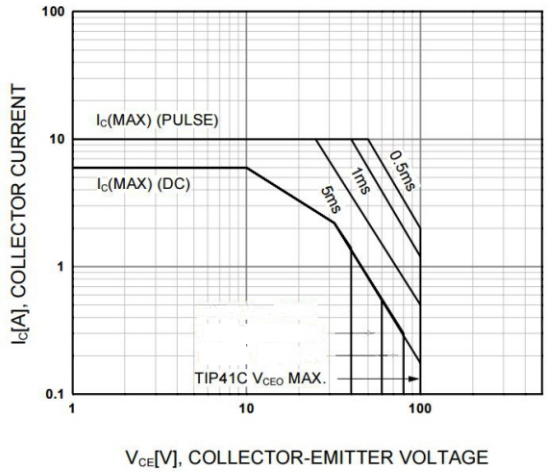


Figure 3. Safe Operating Area

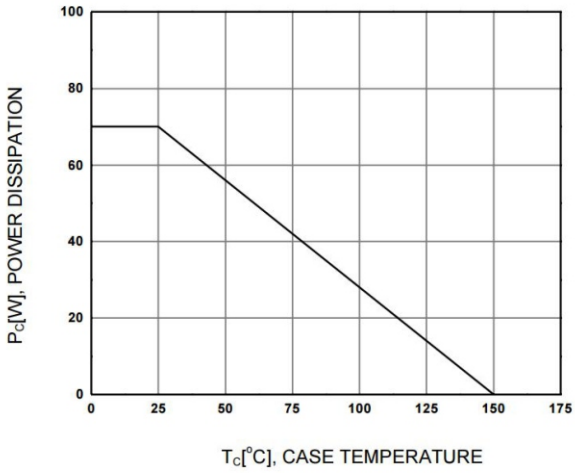
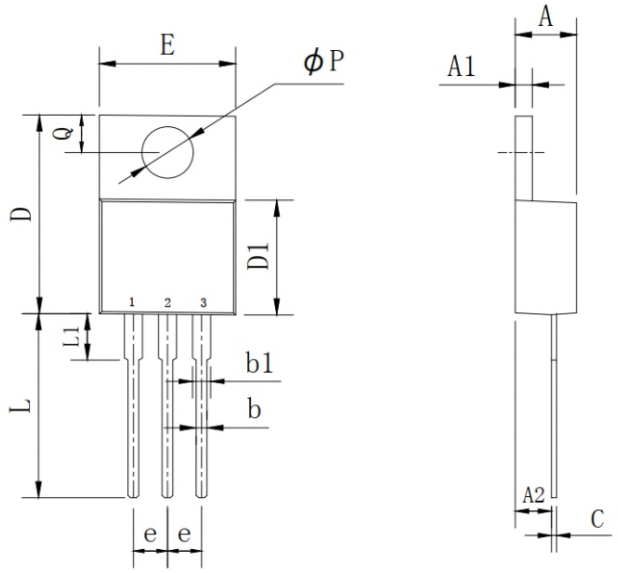


Figure 4. Power Derating

TO-220 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	4.25	4.87	0.167	0.192
A1	1.07	1.47	0.042	0.058
A2	2.03	2.92	0.080	0.115
b	0.51	1.11	0.020	0.044
b1	0.97	1.6	0.038	0.063
C	0.3	0.7	0.012	0.028
D	14.6	15.9	0.575	0.626
D1	8.04	9.3	0.317	0.366
E	9.57	10.57	0.377	0.416
e	2.34	2.74	0.092	0.108
L	12.58	14.3	0.495	0.563
L1	2.8	4.2	0.110	0.165
P	3.4	4.14	0.134	0.163
Q	2.45	3	0.096	0.118

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