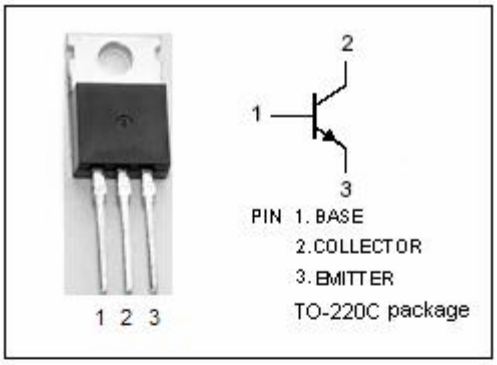
isc Silicon NPN Power Transistors — TIP41E

DESCRIPTION

- DC Current Gain -h_{FE} = 30(Min)@ I_C= 0.3A
- Collector-Emitter Sustaining Voltage-
  : $V_{CEO(SUS)}$ = 140V(Min)
- Complement to Type TIP42E
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

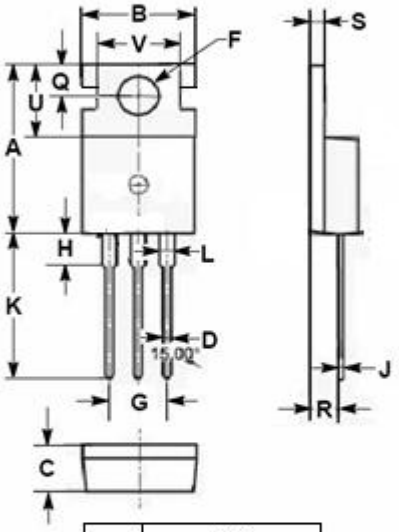


APPLICATIONS

- Designed for use in general purpose amplifer and switching applications

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	180	V
V_{CEO}	Collector-Emitter Voltage	140	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current-Continuous	6	A
I_{CM}	Collector Current-Peak	10	A
I_B	Base Current	3	A
P_C	Collector Power Dissipation T_C=25℃	65	W
	Collector Power Dissipation T_a=25℃	2	
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature Range	-65~150	℃



DIM	mm MIN	mm MAX
A	15.50	15.90
B	9.80	10.20
C	4.20	4.50
D	0.70	0.90
F	3.40	3.70
G	4.98	5.18
H	2.68	2.90
J	0.44	0.60
K	12.80	13.40
L	1.20	1.45
Q	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th\ j\text{-}c}$	Thermal Resistance,Junction to Case	1.92	℃/W
$R_{th\ j\text{-}a}$	Thermal Resistance,Junction to Ambient	62.5	℃/W

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ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	I_C= 30mA; I_B= 0	140		V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 6A; I_B= 1.5A		1.5	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C= 6A; V_{CE}= 4V		2.0	V
I_{CES}	Collector Cutoff Current	V_{CE}= 180V; V_{BE}= 0		0.4	mA
I_{CEO}	Collector Cutoff Current	V_{CE}= 90V; I_B= 0		0.7	mA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 5V; I_C= 0		1.0	mA
h_{FE-1}	DC Current Gain	I_C= 0.3A; V_{CE}= 4V	30		
h_{FE-2}	DC Current Gain	I_C= 3A; V_{CE}= 4V	15		
f_T	Current-Gain—Bandwidth Product	I_C= 0.5A ; V_{CE}= 10V	3		MHz
Switching Time					
t_{on}	Turn-On Time	I_C= 6A; I_{B1}= -I_{B2}= 0.6A; $V_{BE(off)}$= 4V, R_L= 5Ω		0.6	μs
t_{off}	Turn-Off Time			1.0	μs

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