MOSPEC

COMPLEMENTARY SILICON POWER TRANSISTORS

...Designed for use in 220V line-operated switchmode power supplies and electronic light ballast

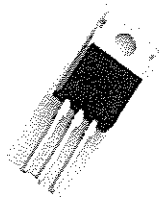
DESCRIPTION :

- Collector-Base Breakdown Voltage-
  $V_{(BR)CBO}$= 1000V(Min)
- High Switching Speed
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

NPN

MJE18004

5 AMPERES
COMPLEMENTARY
SILICON
POWER TRANSISTOR
1000 VOLTS
100 WATTS



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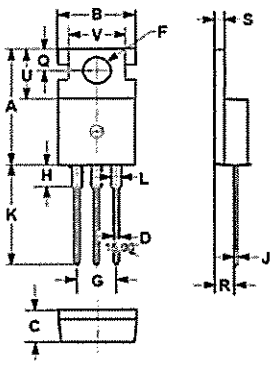

PIN 1.BASE.
2.COLLECTOR
3.EMITTER

DIM	MILLIMETERS	
	MIN	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
O	2.70	2.90
R	2.30	2.70
S	1.29	1.35
U	6.45	6.65
V	8.66	8.86

MAXIMUM RATINGS

Rating	Symbol	MJE18004	Unit
Collector-Emitter Voltage	V_{CEO}	450	V
Collector-Base Voltage	V_{CBO}	1000	V
Emitter-Base Voltage	V_{EBO}	9.0	V
Collector Current-Continuous -Peak	I_C I_{CM}	5 10	A
Base Current	I_B	2.0	A
Total Power Dissipation @TC=25℃	P_D	100	Watts
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-65 to +150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{th\ j\text{-}c}$	1.25	°C/W
Thermal Resistance, Junction to Ambient	$R_{th\ j\text{-}a}$	62.5	°C/W

ELECTRICAL CHARATERISTICS (T_C=25°C unless otherwise noted)

Characteristic	Symbol	Min.	Max	Unit
OFFCHARACTERISTICS				
Collector-Emitter Sustaining Voltage (I_C = 30 mA, I_B = 0)	$V_{CEO(SUS)}$	450		V
Collector Cutoff Current (V_{CE} = 450 V, I_B = 0)	I_{CEO}		0.1	mA
Emitter Cutoff Current (V_{EB}= 9.0 V, I_C = 0)	I_{EBO}		0.1	mA
ON CHARACTERISTICS				
DC Current Gain (I_C = 1 A, V_{CE} = 5.0 V) (I_C = 2 A, V_{CE} = 1.0 V) (I_C = 10 mA, V_{CE} = 5.0 V)	h_{FE}	14 6 10	36	
Collector-Emitter Saturation Voltage (I_C = 2.5 A, I_B = 0.5 A)	$V_{CE(sat)}$		0.75	V
Base-Emitter Saturation Voltage (I_C = 1 A, I_B = 0.1 A) (I_C = 2 A, I_B = 0.4 A) (I_C = 2.5 A, I_B = 0.5 A)	$V_{BE(sat)}$		1.10 1.25 1.30	V
DYNAMIC CHARATERISTICS				
Current gain-Bandwidth product (I_C=0.5 A ,V_{CE} =10 V, f_{TEST}=1.0 MHz	f_T	13 (typ)		MHz

SWITCHING CHARATERISTICS

Turn-on Time	Vcc=250V, Ic=2.5V I_{B1}=I_{B2}=0.5A	t_{ON}	450 (typ)	600	ns
Storage Time		t_S	2 (typ)	3	us
Turn-off Time		t_f	0.275 (typ)	0.4	us

※Switching Times Resistive Load,Duty Cycle≤10%,Pulse Width=20μ s

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