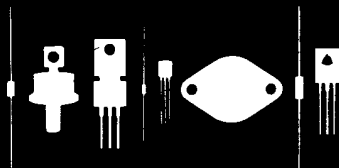


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148-B Lamar Street
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MJE13006

MJE13007

NPN SILICON TRANSISTOR

JEDEC TO-220 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR MJE13006, MJE13007 types are Silicon NPN Transistors designed for high voltage, high speed switching applications.

MAXIMUM RATINGS (T_C=25°C)

	SYMBOL	MJE13006	MJE13007	UNIT
Collector-Emitter Voltage (V _{BE} =1.5)	V _{CEV}	600	700	V
Collector-Emitter Voltage	V _{CEO}	300	400	V
Emitter-Base Voltage	V _{EBO}	9.0	9.0	V
Emitter Current	I _E	12	12	A
Emitter Current (Peak)	I _{EM}	24	24	A
Collector Current	I _C	8.0	8.0	A
Collector Current (Peak)	I _{CM}	16	16	A
Base Current	I _B	4.0	4.0	A
Base Current (Peak)	I _{BM}	8.0	8.0	A
Power Dissipation	P _D	80	80	W
Operating and Storage Junction Temp Range	T _J , T _{stg}	-65 TO +150		°C
Thermal Resistance	θ _{JC}	1.56	1.56	°C/W

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
BV _{CEO} (MJE13006)	I _C =10mA	300		V
BV _{CEO} (MJE13007)	I _C =10mA	400		V
I _{CEV}	V _{CE} =Rated V _{CEV} , V _{BE} (OFF)=1.5V		1.0	mA
I _{CEV}	V _{CE} =Rated V _{CEV} , V _{BE} (OFF)=1.5V, T _C =100°C		5.0	mA
I _{EBO}	V _{EB} =9.0V		1.0	mA
V _{CE} (SAT)	I _C =2.0A, I _B =0.4A		1.0	V
V _{CE} (SAT)	I _C =5.0A, I _B =1.0A		2.0	V
V _{CE} (SAT)	I _C =8.0A, I _B =2.0A		3.0	V
V _{CE} (SAT)	I _C =5.0A, I _B =1.0A, T _C =100°C		3.0	V
V _{BE} (SAT)	I _C =2.0A, I _B =0.4A		1.2	V
V _{BE} (SAT)	I _C =5.0A, I _B =1.0A		1.6	V
V _{BE} (SAT)	I _C =5.0A, I _B =1.0A, T _C =100°C		1.5	V
h _{FE}	V _{CE} =5.0V, I _C =2.0A	8.0	60	
h _{FE}	V _{CE} =5.0V, I _C =5.0A	5.0	30	
f _T	V _{CE} =10V, I _C =500mA, f=1.0MHz	4.0		MHz
t _{ON}	V _{CC} =125V, I _C =5.0A, I _{B1} =I _{B2} =1.0A, PW=25μs		1.6	μs
t _{OFF}	V _{CC} =125V, I _C =5.0A, I _{B1} =I _{B2} =1.0A, PW=25μs		3.7	μs
t _{sv}	V _{CL} =300V, V _{BE} (OFF)=5.0V, I _C =5.0A, I _{B1} =1.0A, T _C =100°C		2.3	μs
t _c	V _{CL} =300V, V _{BE} (OFF)=5.0V, I _C =5.0A, I _{B1} =1.0A, T _C =100°C		0.7	μs
C _{ob}	V _{CB} =10V, I _E =0, f=0.1MHz		100 TYP	pF
I _{s/b} (Forward biased)	V _{CE} =40V, t=1.0s	2.0		A
I _{s/b} (Clamped inductive)	V _{CE} =300V, I _{B1} =2.5A, V _{BE} (OFF)=9V, t=1.0s, T _C =100°C	8.0		A

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