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SWITCHMODE SERIES
NPN SILICON POWER TRANSISTORS

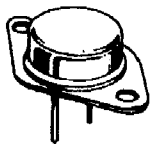
These transistors are designed for high-voltage,high-speed, power switching in inductive circuits where fall time is cirtical. They are particularly suited for line-operated switchmode applications.The MJ16008 is a selected hihg-gain version of the MJ16006 for applications where drive current is limited

Typical Applications:
* Switching Regulators
* Inverters
* Solenoid and Relay Drives
* Motor Controls
* Deflection Circuits

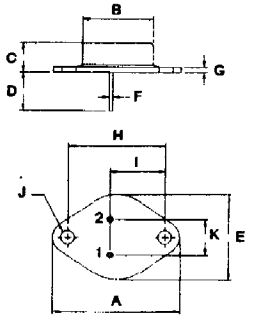
Features:
* Fast Turn-Off Times
* Operating Temperature Range - 65 to+200°C
* 100°C Performance Specified for:
  - Reverse-Biased SOA With Inductive Loads
  - Switching Times With Inductive Loads
  - Saturation Voltages
  - Leakage Currents

NPN
MJ16006
MJ16008

8 AMPERE
SILICON POWER
TRANSISTORS
450 VOLTS
150 WATTS



TO-3



PIN 1.BASE
2.EMITTER
COLLECTOR(CASE)

DIM	MILLIMETERS	
	MIN	MAX
A	38.75	39.96
B	19.28	22.23
C	7.96	9.28
D	11.18	12.19
E	25.20	26.67
F	0.92	1.09
G	1.38	1.62
H	29.90	30.40
I	16.64	17.30
J	3.88	4.36
K	10.67	11.18

MAXIMUM RATINGS

Characteristic	Symbol	MJ16006	MJ16008	Unit
Collector-Emitter Voltage	V_{CEO}	450	450	V
Collector-Emitter Voltage	V_{CEV}	850	850	V
Emitter-Base Voltage	V_{EBO}	6		V
Collector Current - Continuous - Peak	I_C I_{CM}	8 16		A
Base Current-Continuous -Peak	I_B I_{BM}	6 12		A
Total Power Dissipation @T_C=25°C @T_C=100°C Derate above 25°C	P_D	 150 85.5 0.86		W W/°C
Operating and Storage Junction Temperature Range	T_J, T_{STG}	-65 to +200		°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal ResistanceJunction to Case	Rθjc	1.17	°C/W

Quality Semi-Conductors

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

Characteristic		Symbol	Min	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Sustaining Voltage(1) (I_C= 100 mA, I_B= 0)		$V_{CEO(sus)}$	450		V
Collector Cutoff Current (V_{CE}= 850 V , $V_{BE(off)}$= 1.5 V) (V_{CE}= 850 V , $V_{BE(off)}$= 1.5 V,T_C= 100°C)		I_{CEV}		0.25 1.5	mA
Collector Cutoff Current (V_{CE}= 850 V, R_{BE}= 50 Ω ,T_C= 100°C)		I_{CER}		2.5	mA
Emitter Cutoff Current (V_{EB}= 6.0 V, I_C= 0)		I_{EBO}		1.0	mA
ON CHARACTERISTICS (1)					
DC Current Gain (I_C= 8.0 A,V_{CE}= 5.0 V)	MJ16006 MJ16008	hFE	5.0 7.0		
Collector-Emitter Saturation Voltage (I_C= 3.0 A, I_B= 0.4 A) (I_C= 5.0 A, I_B= 0.66 A) (I_C= 3.0 A,I_B= 0.3 A) (I_C= 5.0 A, I_B= 0.5 A)	 MJ16006 MJ16006 MJ16008 MJ16008	$V_{CE(sat)}$		 2.5 3.0 2.5 3.0	V
Base-Emitter Saturation Voltage (I_C= 5.0 A, I_B= 0.66 A) (I_C= 5.0 A, I_B= 0.5 A)	 MJ16006 MJ16008	$V_{BE(sat)}$		 1.5 1.5	V
DYNAMIC CHARACTERISTICS					
Output Capacitance (V_{CB}= 10 V, I_E= 0, f = 1.0 KHz)		C_{ob}		350	pF

SWITCHING CHARACTERISTICS

Delay Time	V_{CC}=250V, I_C=5A	I_{B1}=-I_{B2}= 0.66A	t_d		100	ns
Rise Time	R_{BE}=4 Ω	MJ16006	t_r		250	ns
Storage Time	P_W=30 us	I_{B1}=-I_{B2}= 0.50A	t_s		2500	ns
Fall Time	Duty Cycle ≦ 2%	MJ16008	t_f		300	ns

(1) Pulse Test: Pulse Width ≦ 300 us,Duty Cycle≦ 2%

FIGURE -1 POWER DERATING