

MJE13005F TRANSISTOR (NPN)

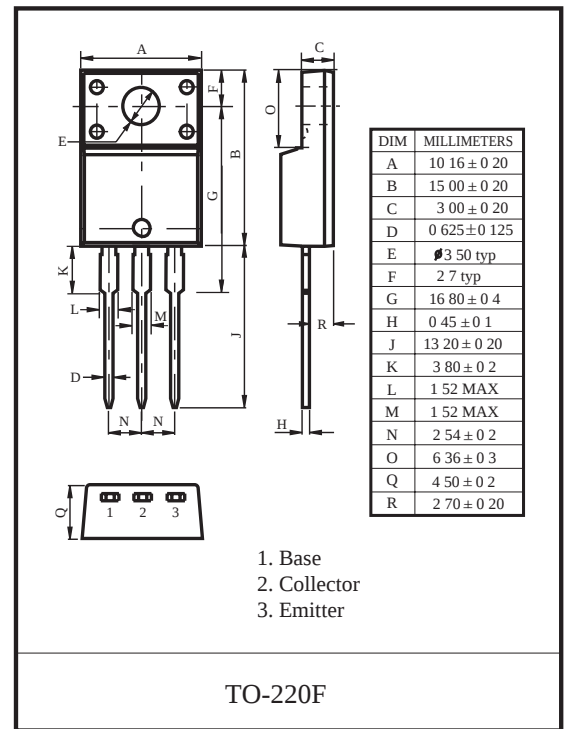
SWITCHING REGULATOR APPLICATION.
HIGH VOLTAGE SWITCHING APPLICATION.
HIGH SPEED DC- DC CONVERTER APPLICATION.
FLUORESCENT LIGHT BALLASTOR APPLICATION.

FEATURES

High Collector Voltage : $V_{CBO} = 700V$.

MAXIMUM RATINGS ($T_a = 25^\circ C$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	700	V
V_{CEO}	Collector-Emitter Voltage	400	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current -Continuous	4	A
P_C	Collector Power Dissipation	2	W
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature	-55~150	$^\circ C$



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 1mA, I_E = 0$	700			V
Collector-emitter breakdown	$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 1mA, I_C = 0$	9			V
Collector cut-off current	I_{CBO}	$V_{CB} = 700V, I_E = 0$			1	mA
Collector cut-off current	I_{CEO}	$V_{CE} = 400V, I_B = 0$			0.1	mA
Emitter cut-off current	I_{EBO}	$V_{EB} = 7V, I_C = 0$			0.05	mA
DC current gain	h_{FE1}	$V_{CE} = 5V, I_C = 1A$	19		36	
	h_{FE2}	$V_{CE} = 5V, I_C = 10mA$	5			
	h_{FE3}	$V_{CE} = 5V, I_C = 2A$	8		30	
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C = 1A, I_B = 0.2A$			0.3	V
	$V_{CE(sat)2}$	$I_C = 4A, I_B = 1A$			0.8	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2A, I_B = 0.5A$			1.6	V
Transition Frequency	f_T	$V_{CE} = 10V, I_C = 500mA, f = 1MHz$	5			MHz
Fall time	t_f	$I_{B1} = -I_{B2} = 0.4A, I_C = 2A, V_{CC} = 120V$			0.6	μs
Storage time	t_s	$I_C = 0.25A$	2.5		4.0	μs

