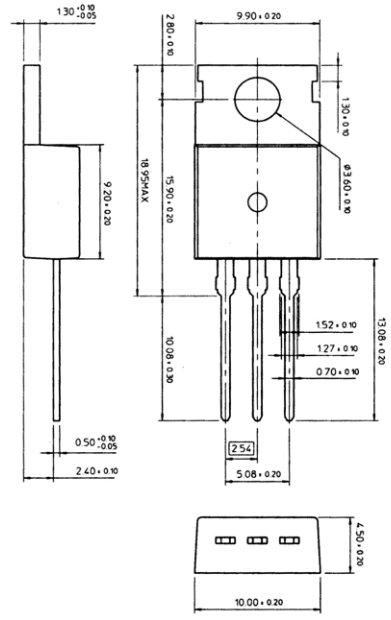
13007

NPN Epitaxial Silicon Transistor

TO-220



1. Base 2. Collector 3. Emitter

HIGH VOLTAGE SWITCH MODE APPLICATION

- Collector-Emitter Voltage: V_{CEO}=400V
- Collector Dissipation: P_C(max)=80W

Absolute Maximum Ratings (T_A=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	700	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	9	V
Collector Current	I_C	8	A
Collector Dissipation	P_C	80	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55~+150	°C

Electrical Characteristics (T_A=25°C)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage	BV_{CEO}	I_C=10mA, I_B=0	400			V
Emitter Cut-off Current	I_{EBO}	V_{EB}=9V, I_C=0			1	mA
DC Current Gain	$h_{FE(1)}$	V_{CE}=5V, I_C=2A	8		60	
	$h_{FE(2)}$	V_{CE}=5V, I_C=5A	5		30	
Collector-Emitter Saturation Voltage	$V_{CE(sat1)}$	I_C=2A, I_B=0.4A			1	V
	$V_{CE(sat2)}$	I_C=5A, I_B=1A			2	V
	$V_{CE(sat3)}$	I_C=8A, I_B=2A			3	V
Base-emitter Saturation Voltage	$V_{BE(sat1)}$	I_C=2A, I_B=0.4A			1.2	V
	$V_{BE(sat2)}$	I_C=5A, I_B=1A			1.6	V
Output Capacitance	C_{OB}	V_{CB}=10V, f=0.1MHz		110		pF
Current Gain Bandwidth Product	f_T	V_{CE}=10V, I_C=0.5A	4			MHz
Turn On Time	t_{ON}	V_{CC}=125V, I_C=5A			1.6	μS
Storage Time	t_{STG}	1_{B1}=-1_{B2}=1A			3	μS
Fall Time	t_f	R_L=50Ω			0.7	μS

* Pulse Test : PW ≤ 300 μ s, Duty cycles ≤ 2%

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