

# TO-220 Plastic-Encapsulate Transistors

## HM13007 TRANSISTOR (NPN)

### FEATURES

Power dissipation

$P_{CM}$ : 2 W ( $T_{amb}=25^{\circ}C$ )

Collector current

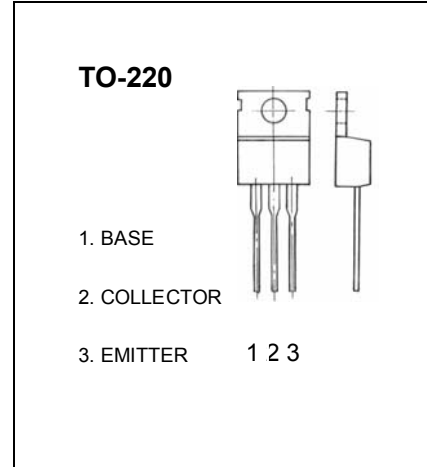
$I_{CM}$ : 8 A

Collector-base voltage

$V_{(BR)CBO}$ : 700 V

Operating and storage junction temperature range

$T_J, T_{stg}$ :  $-55^{\circ}C$  to  $+150^{\circ}C$



### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}C$ 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 voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	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
Emitter cut-off current	$I_{EBO}$	$V_{EB}=9V, I_C=0$			100	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=5V, I_C=2A$	8		40	
	$h_{FE(2)}$	$V_{CE}=5V, I_C=5A$	5		30	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2A, I_B=0.4A$			1	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=2A, I_B=0.4A$			1.2	V
Transition frequency	$f_T$	$I_C=500mA, V_{CE}=10V$ $f=1MHz$	4			MHz
Collector output capacitance	$C_{ob}$	$V_{CE}=10V, I_E=0, f=0.1MHz$		80		pF
Fall time	$t_f$	$V_{CC}=125V, I_C=5A$ $I_{B1}=-I_{B2}=1A$			0.7	$\mu s$
Storage time	$t_s$				3	$\mu s$

### CLASSIFICATION OF $h_{FE(1)}$

Rank						
Range	8-15	15-20	20-25	25-30	30-35	35-40