

**TRANSISTOR (NPN)**
**Plastic-Encapsulate Transistor**
**FEATURES**

Power dissipation

$$P_{CM}: 1.5W (T_{amb}=25^{\circ}C)$$

Collector current

$$I_{CM}: 4A$$

Collector-base voltage

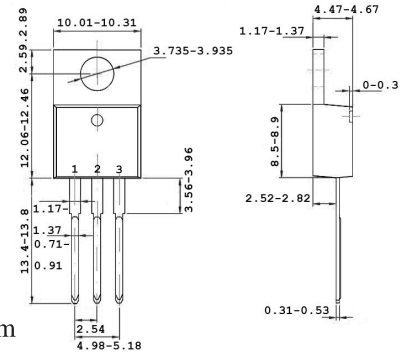
$$V_{(BR)CBO}: 700V$$

Operating and storage junction temperature range

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

**TO-220**

1. BASE
2. COLLECTOR
3. EMITTER



UNIT:mm

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

**ELECTRICAL CHARACTERISTICS**

Parameters	Symbol	Test conditions	MIN	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
Collector cut-off current	$I_{CEO}$	$V_{CE}=400V, I_B=0$		100	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=9V, I_C=0$		1	mA
DC current gain	$h_{FE}$	$V_{CE}=5V, I_C=1A$	10	40	
Collector-emitter saturation voltage	$V_{CEsat}$	$I_C=2A, I_B=500mA$		0.6	V
Base-emitter saturation voltage	$V_{BEsat}$	$I_C=2A, I_B=500mA$		1.6	V
Transition frequency	$f_T$	$V_{CE}=10V, I_C=500mA$ $f=1MHz$	5		MHz
Fall time	$t_f$	$I_C=2A, I_{B1}=-I_{B2}=0.4A,$		0.9	$\mu S$
Storage time	$t_s$	$V_{CC}=120V$		4	$\mu S$

**CLASSIFICATION OF  $h_{FE}$** 

Rank						
Range	10-15	15-20	20-25	25-30	30-35	35-40