

### 3DD13003 TRANSISTOR (NPN)

#### FEATURES

Power dissipation

$P_{CM}$ : 1.25 W ( $T_{amb}=25^{\circ}C$ )

Collector current

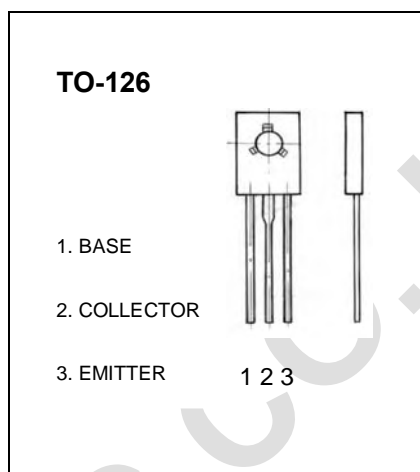
$I_{CM}$ : 1.5 A

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	$V_{(BR)CBO}$	$I_C=1000\mu A, I_E=0$	700			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1000\mu A, I_C=0$	9			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=700V, I_E=0$			1000	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE}=400V, I_B=0$			500	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=9V, I_C=0$			1000	$\mu A$
DC current gain	$H_{FE(1)}$	$V_{CE}=2V, I_C=0.5A$	8		40	
	$H_{FE(2)}$	$V_{CE}=10V, I_C=0.5mA$	5			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1000mA, I_B=250mA$			1	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=1000mA, I_B=250mA$			1.2	V
Base-emitter voltage	$V_{BE}$	$I_E=2000mA$			3	V
Transition frequency	$f_T$	$V_{CE}=10V, I_C=100mA$ $f=1MHz$	5			MHz
Fall time	$t_f$	$I_C=1A, I_{B1}=-I_{B2}=0.2A$ $V_{CC}=100V$			0.5	$\mu s$
Storage time	$t_s$				2.5	$\mu s$

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

Rank							
Range	8-10	10-15	15-20	20-25	25-30	30-35	35-40