HAROM TO-92 Plastic-Encapsulate Transistors

S9013 TRANSISTOR（NPN）

FEATURE

Power dissipation

P_{CM} : 0.625 W （Tamb=25℃）

Collector current

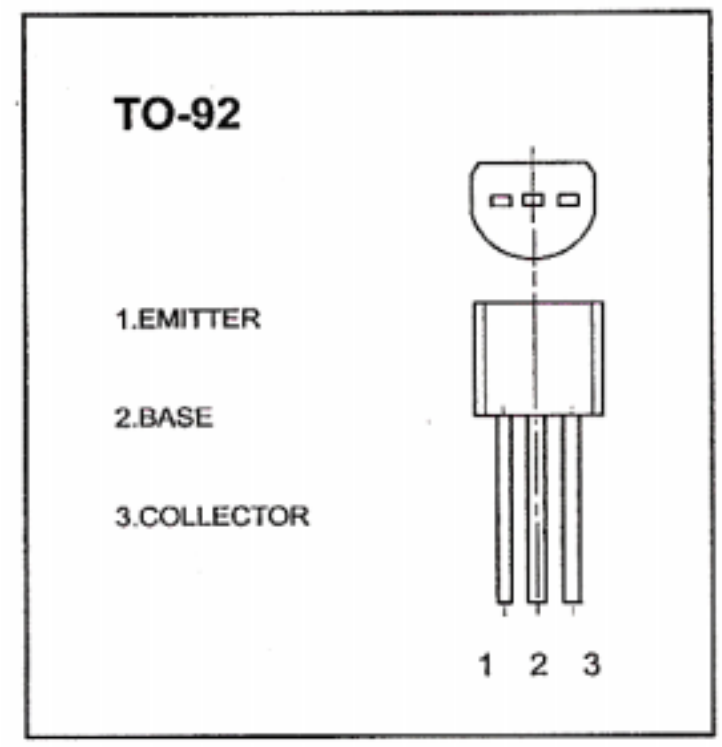
I_{CM} : 0.5 A

Collector-base voltage

$V_{(BR)CBO}$: 40 V

Operating and storage junction temperature range

T_J, T_{stg}: -55℃ to +150℃



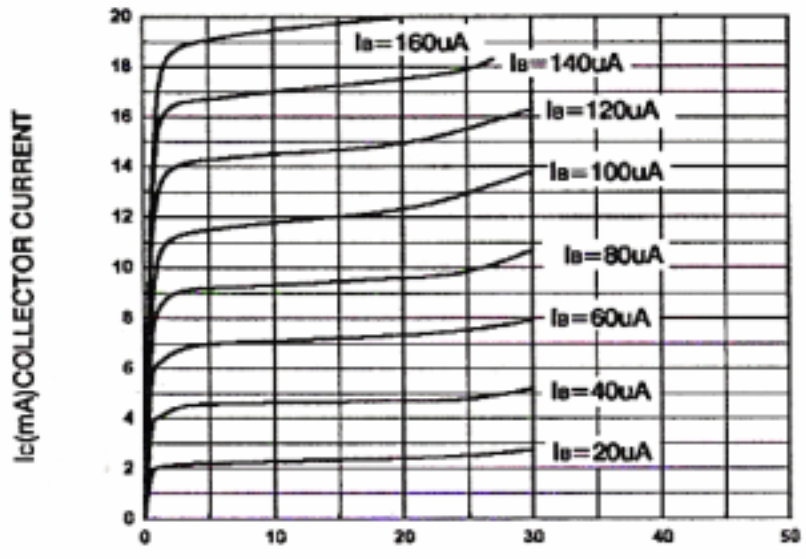
ELECTRICAL CHARACTERISTICS

（Tamb=25℃ unless otherwise specified）

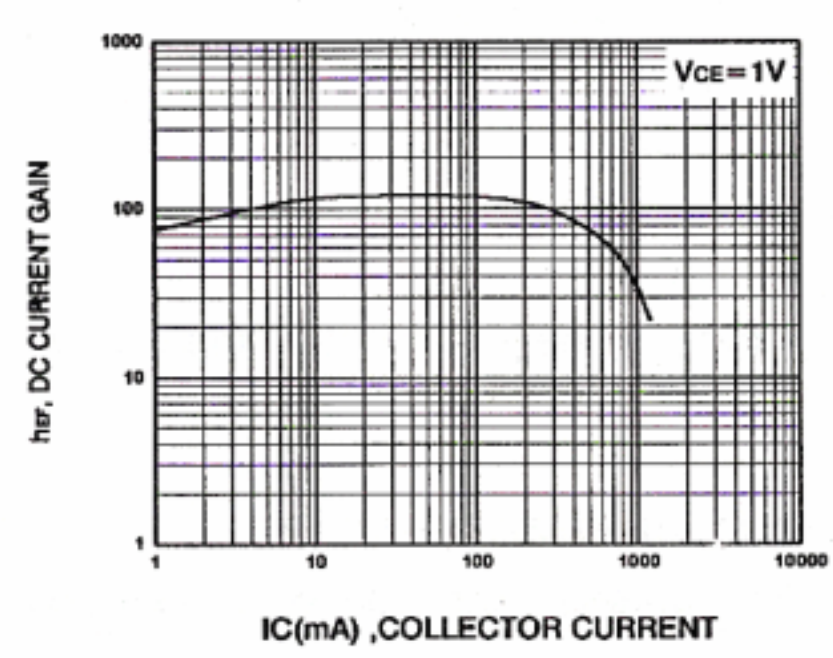
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V(BR)_{CBO}$	Ic= 100 μ A, I_E=0	40		V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	Ic= 0. 1 mA, I_B=0	25		V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	I_E= 100 μ A, I_C=0	5		V
Collector cut-off current	I_{CBO}	V_{CB}= 40 V I_E=0		0.1	μ A
Collector cut-off current	I_{CEO}	V_{CE}= 20 V I_B=0		0.1	μ A
Emitter cut-off current	I_{EBO}	V_{EB}= 5 V, I_C=0		0.1	μ A
DC current gain	$H_{FE\ (1)}$	V_{CE}= 1 V, I_C= 50 mA	64	300	
	$H_{FE\ (2)}$	V_{CE}= 1V, I_C =500 mA	40		
Collector-emitter saturation voltage	V_{CE}(sat)	I_C= 500 mA, I_B=50 mA		0.6	V
Base-emitter saturation voltage	V_{BE}(sat)	I_C= 500mA, I_B= 50 mA		1.2	V
Base-emitter voltage	V_{BE}	I_E=100mA		1.4	V
Transition frequency	f_T	V_{CE}= 6 V, I_C= 20 mA f =30MHz	150		MHz

CLASSIFICATION OF $H_{FE(1)}$

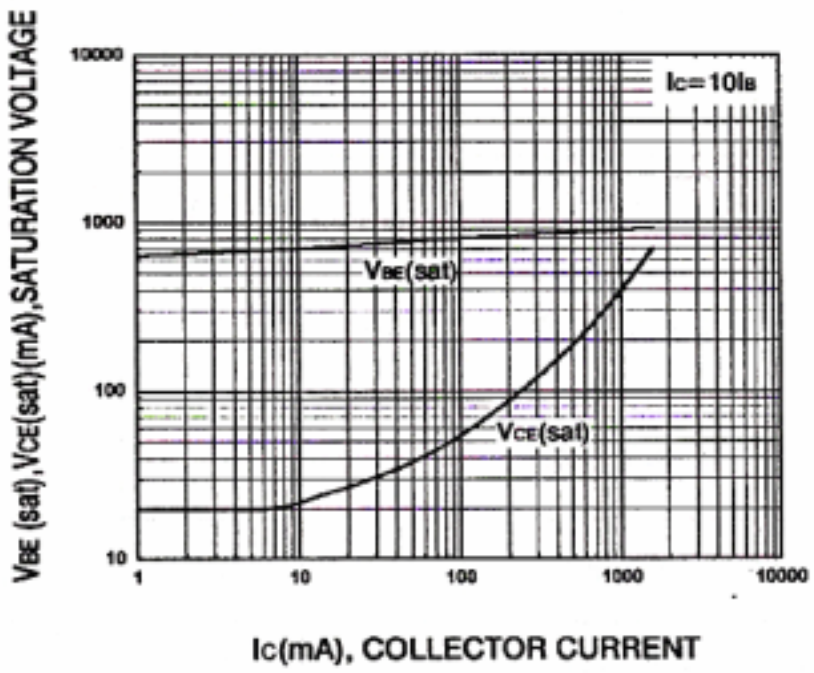
Ran	D	E	F	G	H	I
Range	64-91	78-112	96-135	112-166	144-202	190-300



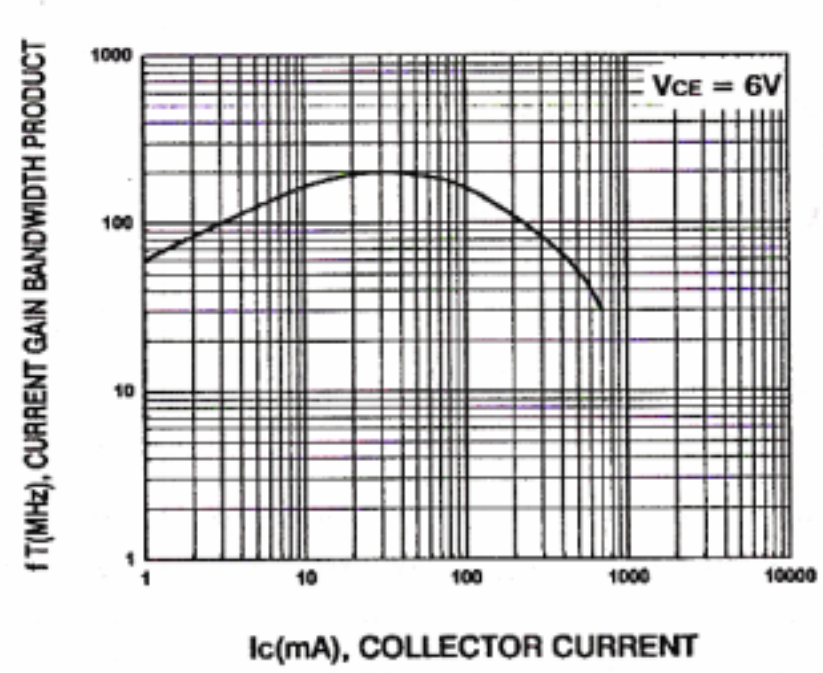
Static Characteristic



DC current Gain



Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage



Current Gain Bandwidth Product