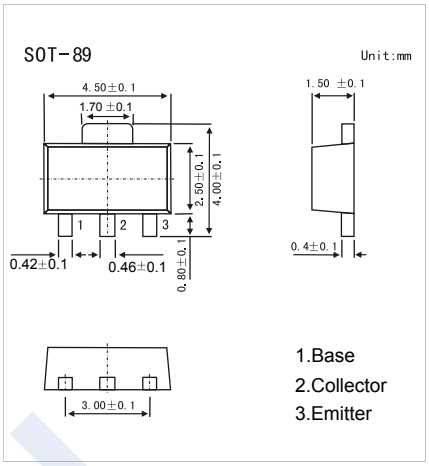
NPN Transistors

2SC3439-HF



■ Features

- High h_{FE} : h_{FE}=400 to 1800
- High collector current
- Low collector to emitter saturation voltage
- High collector dissipation Pc=500mW
- Small package for mounting
- Complementary to 2SA1369-HF
- Pb−Free Package May be Available. The G−Suffix Denotes a Pb−Free Lead Finish

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	30	V
Collector - Emitter Voltage	V_{CEO}	25	
Emitter - Base Voltage	V_{EBO}	6	
Collector Current - Continuous	I_C	1.5	A
Peak Collector Current	I_{CM}	3	
Collector Power Dissipation	P_C	500	mW
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100uA， I_E= 0	30			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1mA， R_{BE}= ∞	25			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100uA， I_C= 0	6			
Collector-base cut-off current	I_{CBO}	V_{CB}= 20V , I_E= 0			0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 4V , I_C=0			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=1A, I_B=20mA		0.2	0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=1A, I_B=20mA			1.2	
DC current gain	h_{FE}	V_{CE}= 6V, I_C= 500mA	400		1800	
Collector output capacitance	C_{ob}	V_{CB}= 10V, I_E= 0,f=1MHz		17		pF
Transition frequency	f_T	V_{CE}= 10V, I_C= 10mA		130		MHz

■ Classification of h_{fe}

Type	2SC3439-G-HF	2SC3439-H-HF	2SC3439-J-HF
Range	400-800	600-1200	900-1800
Marking	HG F	HH F	HJ F

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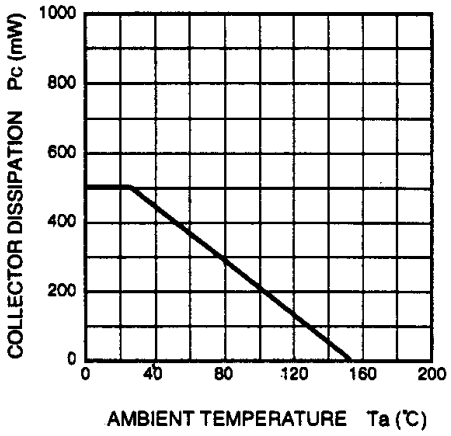
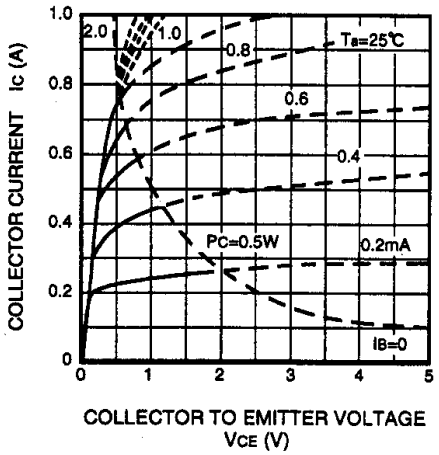
■ Typical Characterisitics

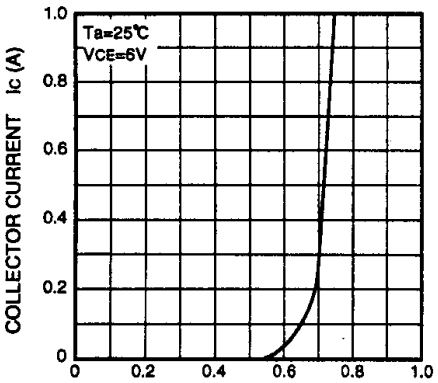
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



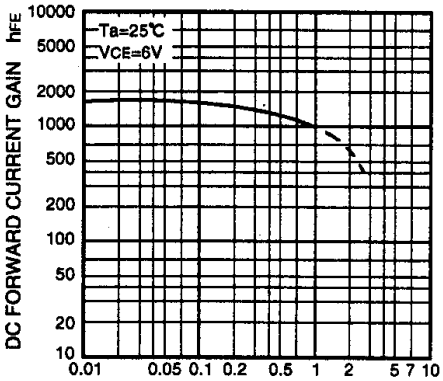
COMMON EMITTER OUTPUT



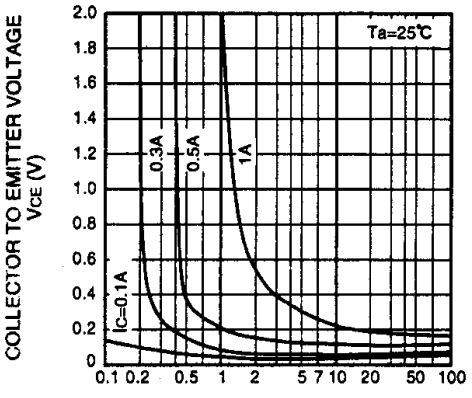
COMMON EMITTER TRANSFER



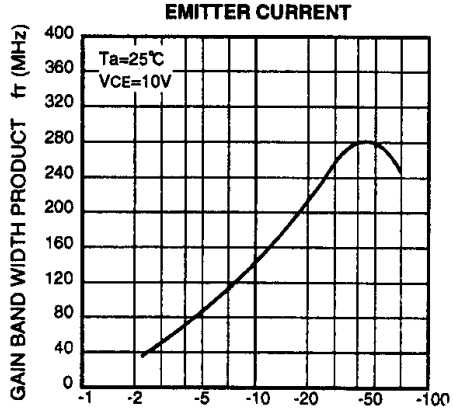
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. BASE CURRENT



GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



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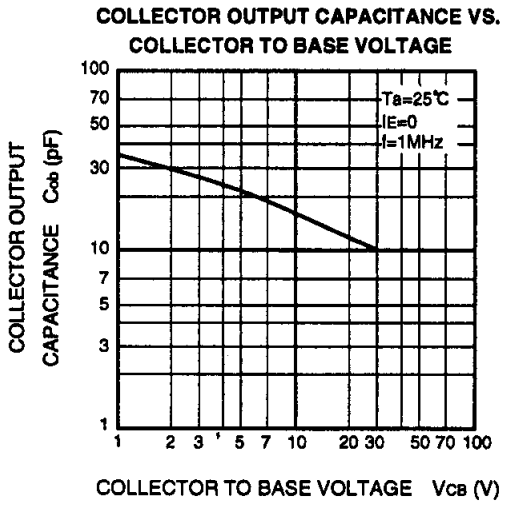
■ Typical Characterisitics