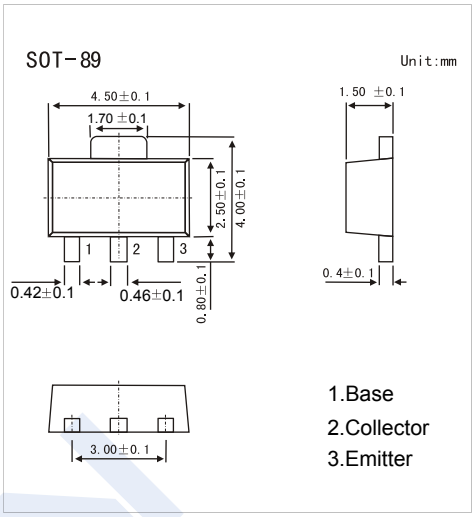
NPN Transistors

2SC3438-HF



■ Features

- High Voltage V_{CEO} = 100V
- High Collector Current (I_{CM} = 800mA)
- High Collector Dissipation P_C = 500mW
- Small Package For Mounting
- Complementary to 2SA1368-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}	100	V
Collector - Emitter Voltage	V_{CEO}	100	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	500	mA
Peak Collector Current	I_{CM}	800	
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= 100 μA, I_E= 0	100			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA, R_{BE}= ∞	100			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μ A, I_C= 0	5			
Collector-base cut-off current	I_{CBO}	V_{CB}= 50 V , I_E= 0			0.5	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 4V , I_C=0			0.5	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=150 mA, I_B=15mA		0.15	0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=150 mA, I_B=15mA			1.2	
DC current gain	h_{FE}	V_{CE}= 10V, I_C= 10mA	55		300	
Collector output capacitance	C_{ob}	V_{CB}= 10V, I_E= 0,f=1MHz		7		pF
Transition frequency	f_T	V_{CE}= 10V, I_C= 10mA		130		MHz

■ Classification of h_{fe}

Type	2SC3438-C-HF	2SC3438-D-HF	2SC3438-E-HF
Range	55-110	90-180	150-300
Marking	FC F	FD F	FE F

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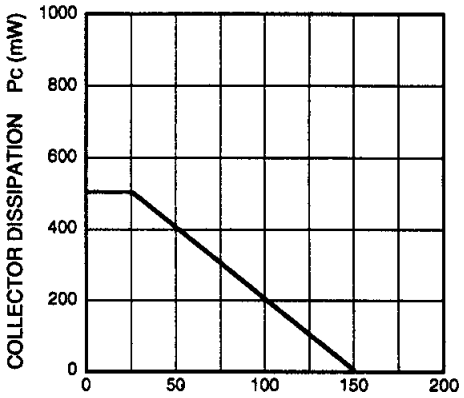
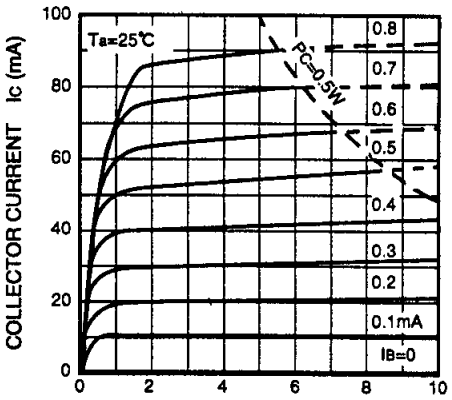
■ Typical Characterisitics

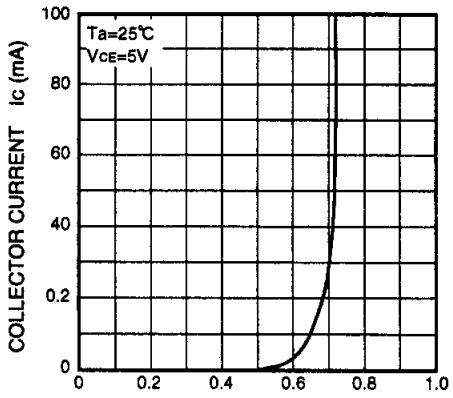
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



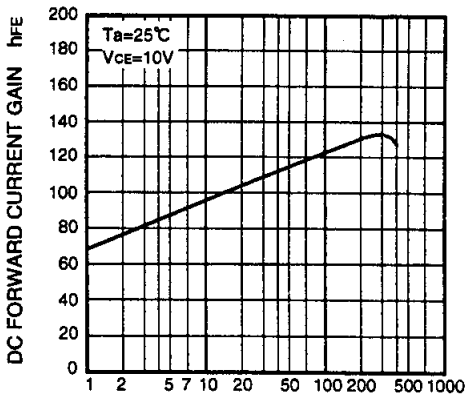
COMMON EMITTER OUTPUT



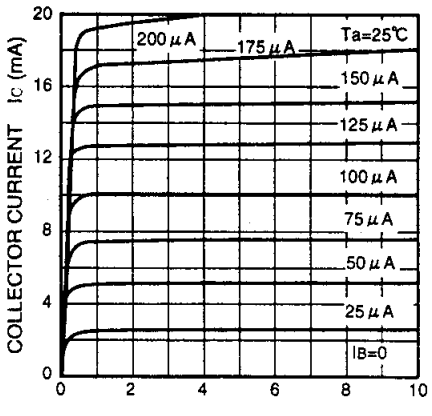
COMMON EMITTER TRANSFER



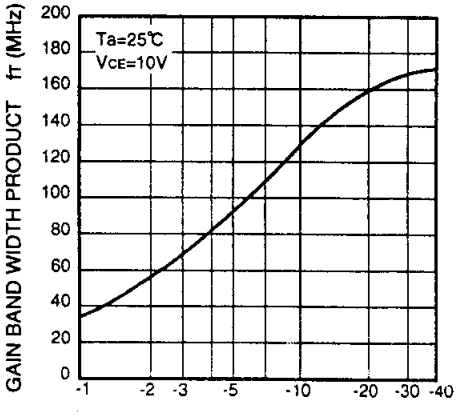
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



COMMON EMITTER OUTPUT



GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



NPN Transistors

2SC3438-HF

■ Typical Characterisitics