

PNP Plastic-Encapsulate Transistors

Features

- ◆Adoption of FBET, MBIT processes.
- ◆High breakdown voltage and large current capacity.
- ◆Fast switching time.
- ◆Very small size making it easy to provide high-density, small-sized hybrid ICs.
- ◆Complement to 2SC3647.

Absolute Maximum Rating (Ta=25°C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BV_{CBO}	-120	V
Collector-Emitter Voltage	BV_{CEO}	-100	V
Emitter-Base Voltage	BV_{EBO}	-6	V
Collector Current	I_C	-2	A
Collector Current (Pulse)	I_{CP}	-3	A
Collector Power Dissipation	P_C	500	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~150	°C

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	BV_{CBO}	$I_C = -100\mu A, I_E = 0$	-120			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = -1mA, I_B = 0$	-100			V
Emitter-base breakdown voltage	BV_{EBO}	$I_E = -100\mu A, I_C = 0$	-6			V
Collector cut-off current	I_{CBO}	$V_{CB} = -100V, I_E = 0$			-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = -4V, I_C = 0$			-100	nA
DC current gain	h_{FE}	$V_{CE} = -5V, I_C = -100mA$	100		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1A, I_B = -100mA$			-0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -1A, I_B = -100mA$			-1.2	V
Transition frequency	f_T	$V_{CE} = -10V, I_B = -100mA$		120		MHz
Collecto Output Capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, F=1MHz$		25		pF

 $h_{FE}(2)$ Classification

Classification	2SA1417-R	2SA1417-S	2SA1417-T
Range	100-200	140-280	200-400
Marking	ACR	ACS	ACT

Typical Characteristics

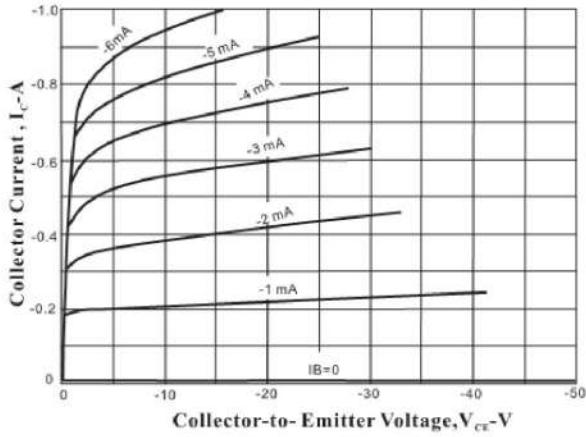


Figure 1. Static Characteristic

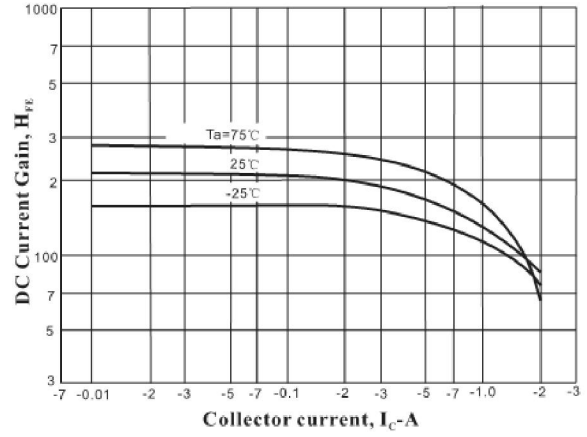


Figure 2. DC current Gain

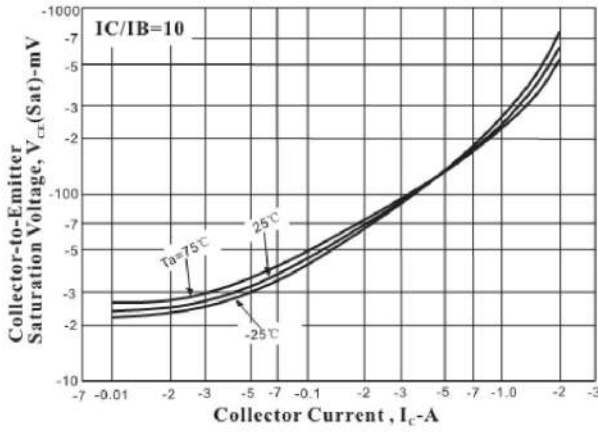


Figure 3. Collector-Emitter Saturation Voltage

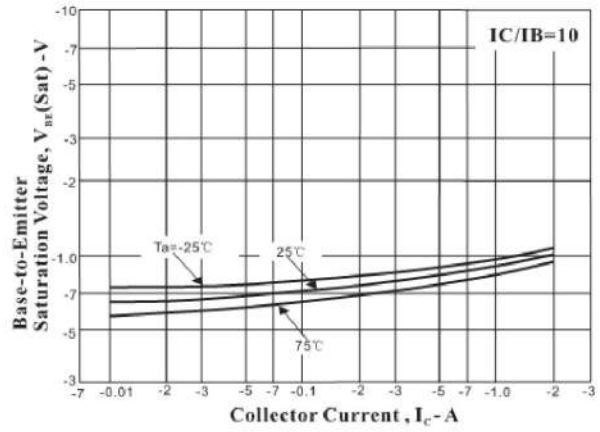


Figure 4. Base-Emitter Saturation Voltage

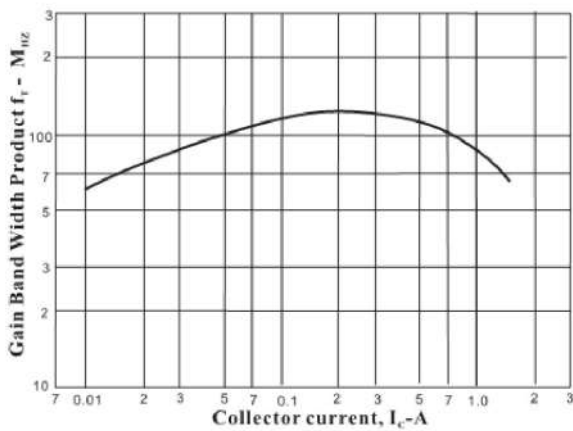


Figure 5. Current Gain Bandwidth Product

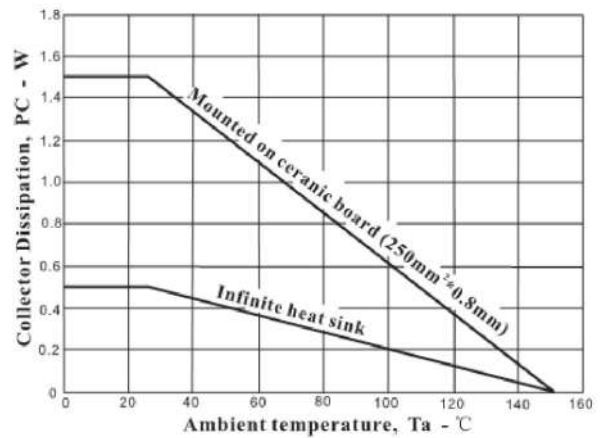


Figure 6. Power Derating

Ordering information

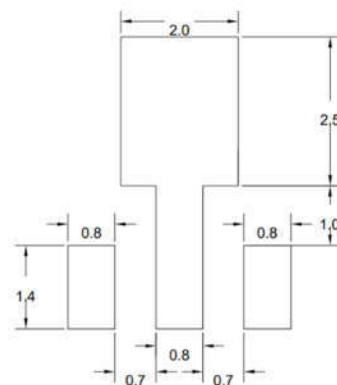
Package	Packing Description	Base Quantity	Packing Quantity
SOT-89	Tape/Reel, 7" reel	1000pcs/Reel	6000PCS/Box 30000PCS/Carton

Package Dimensions

SOT-89

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
b	0.32	0.52	0.013	0.020
b1	0.38	0.58	0.015	0.023
c	0.35	0.45	0.014	0.018
D	4.40	4.60	0.173	0.181
D1	1.45	1.65	0.057	0.065
D2	1.70	1.80	0.067	0.071
E	2.30	2.60	0.091	0.102
E1	3.95	4.25	0.156	0.167
E2	1.80	2.00	0.071	0.079
e	1.40	1.60	0.055	0.063
e1	2.80	3.20	0.110	0.126
L	0.90	1.20	0.035	0.047

The recommended mounting pad size



UNIT:MM

Disclaimer

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