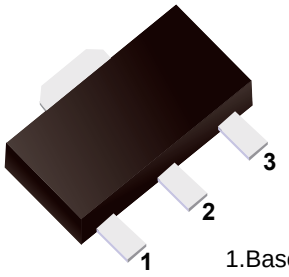
NPN Plastic-Encapsulate Transistors



1.Base
2.Collector
3.Emitter

SOT-89

Features

- Low collector saturation voltage : $V_{CE(sat)}$ =0.45V(Typ.)
- Excellent DC current gain characteristics.
- Complement the YFW1308

Absolute Maximum Rating (Ta=25℃)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BV_{CBO}	50	V
Collector-Emitter Voltage	BV_{CEO}	20	V
Emitter-Base Voltage	BV_{EBO}	6	V
Collector Current DC	I_C	3	A
Collector Current Pluse*	I_{CP}	5	A
Collector Power Dissipation*	P_C	0.5	W
		2	
Junction Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55～150	℃

* : When mounted on 40×40×0.8mm ceramic substate

Electrical Characteristics (Ta=25℃)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BV_{CBO}	I_C = 50μA, I_E = 0	50			V
Collector-emitter breakdown voltage	BV_{CEO}	I_C = 1mA, I_B = 0	20			V
Emitter-base breakdown voltage	BV_{EBO}	I_E = 50μA, I_C = 0	6			V
Collector cut-off current	I_{CBO}	V_{CB} = 40V, I_E = 0			0.5	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 5V, I_C = 0			0.5	μA
DC current gain	h_{FE}	V_{CE}= 2V, I_B= 0.5A	180		560	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C =1.5A, I_B = 0.15A		0.25	0.45	V
Transition frequency	f_T	V_{CE} = 6V, I_E = 50mA		150		MHz
Collector Output Capacitance	C_{ob}	V_{CB} = 20V,I_E =0,f=1MHz		35		pF

* Pulse Test: P_W=300μs, duty Cycle=2% Pulsed

h_{FE} Classification

Classification	YFW1963-R	YFW1963-S
Range	180~390	270~560
Marking	DGR	DGS

Typical Characteristics

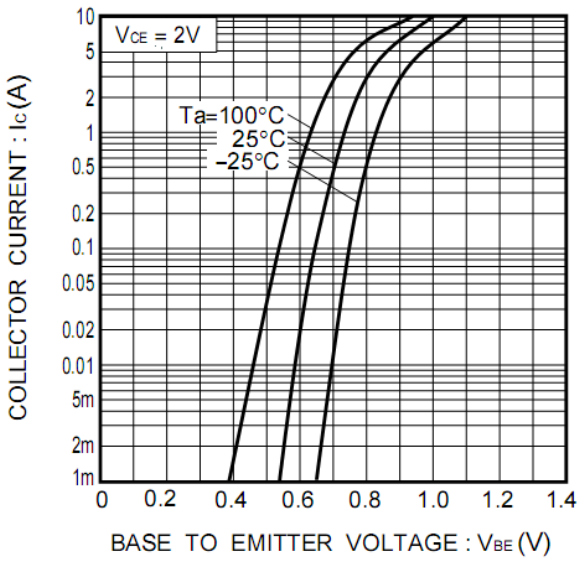


Figure 1. Grounded emitter propagation characteristics

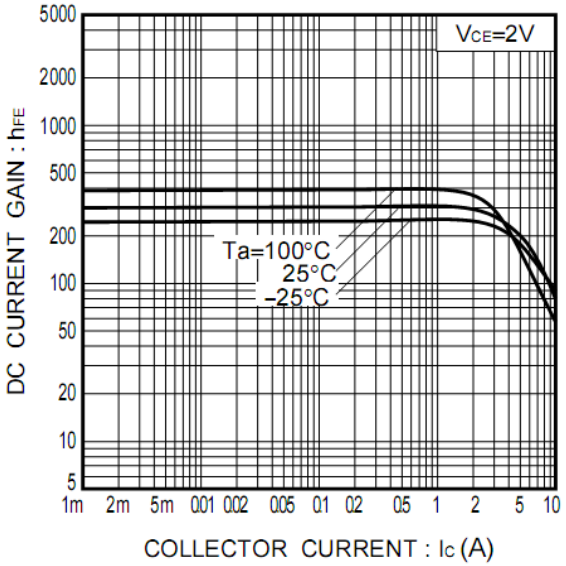


Figure 2. DC current Gain vs collector current

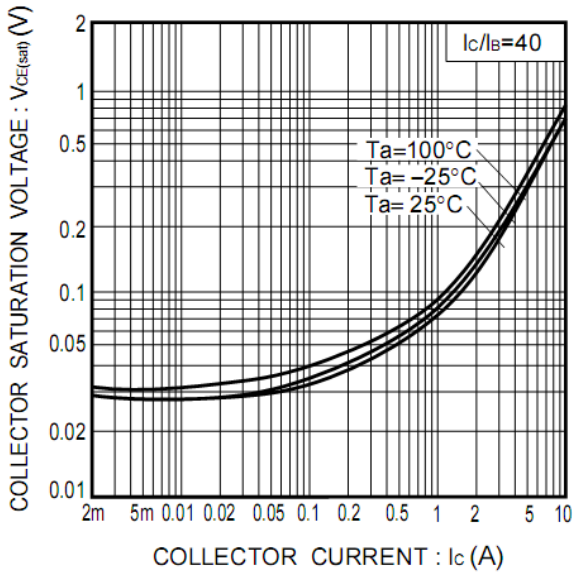


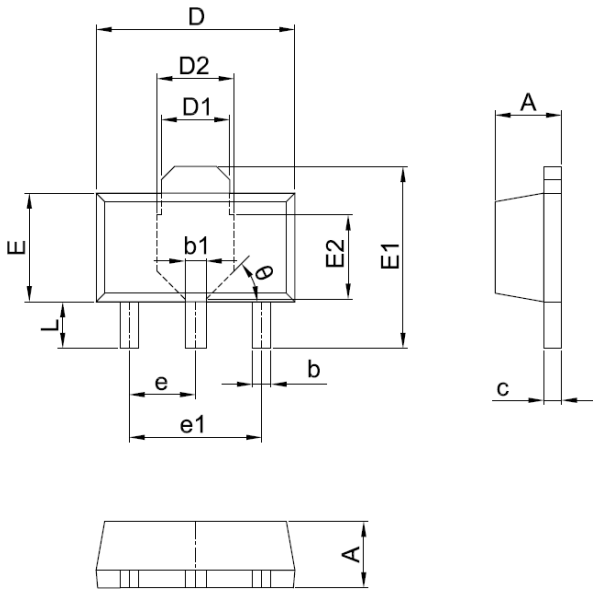
Figure 3. Collector-Emitter Saturation Voltage vs. collector current

Ordering information

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

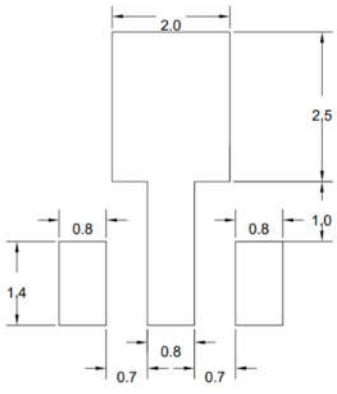
Package Dimensions

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



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