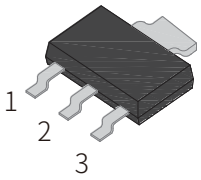
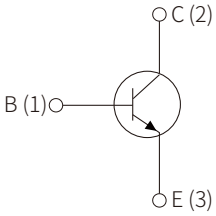
FEATURES

- High Breakdown Voltage and Current
- Excellent DC Current Gain Linearity
- Complement the 2SB1260
- Low Collector-Emitter Saturation Voltage



SOT-89



Schematic Symbol

MECHANICAL DATA

- SOT-89 small outline plastic package
- Epoxy UL: 94V-0
- Mounting position: Any

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	80	
Emitter-Base Voltage	V_{EBO}	5	
Collector Current	I_C	1	A
Collector Power Dissipation	P_C	500	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	250	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55~+150	°C

ELECTRICAL CHARACTERISTICS (T_A=25°C)

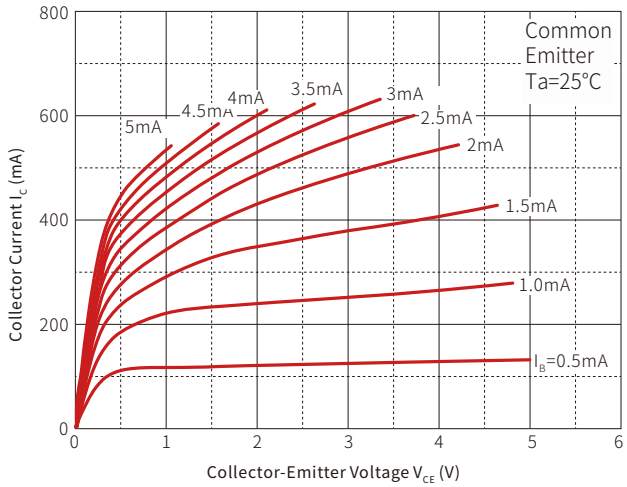
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=50μA,I_E=0	100			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	80			
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=50μA,I_C=0	5			
Collector cut-off current	I_{CBO}	V_{CB}= 80V, I_E=0			1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V, I_C=0			1	
DC Current Gain	h_{FE}	V_{CE}=3V, I_C=1mA	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA, I_B=20mA			0.4	V
Transition frequency	f_T	V_{CE}=10V, I_C=50mA, f=100MHz		100		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0 ,f=1MHz		20		pF

CLASSIFICATION OF $H_{FE(2)}$

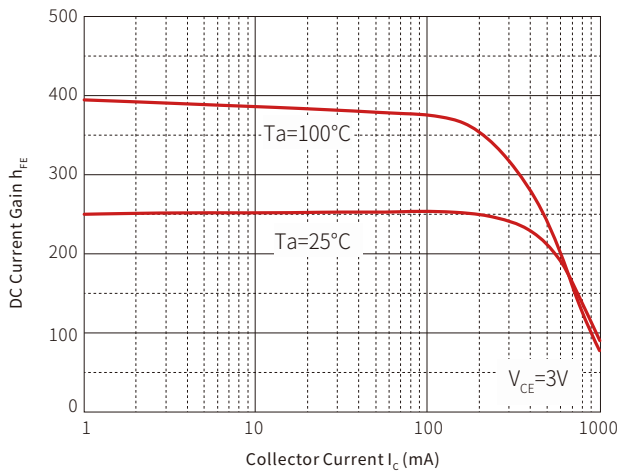
Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	DF		

TYPICAL CHARACTERISTICS

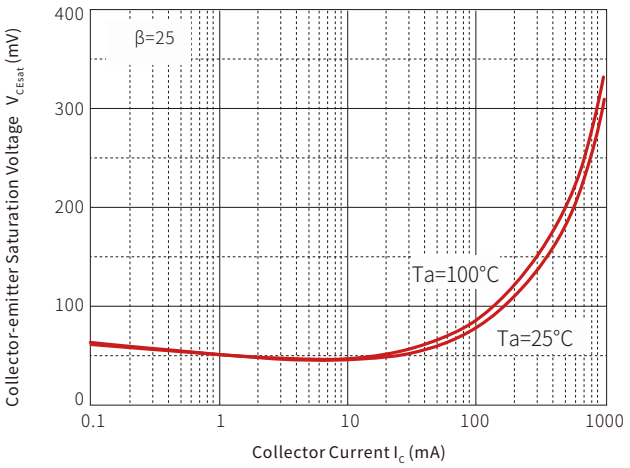
Static Characteristic



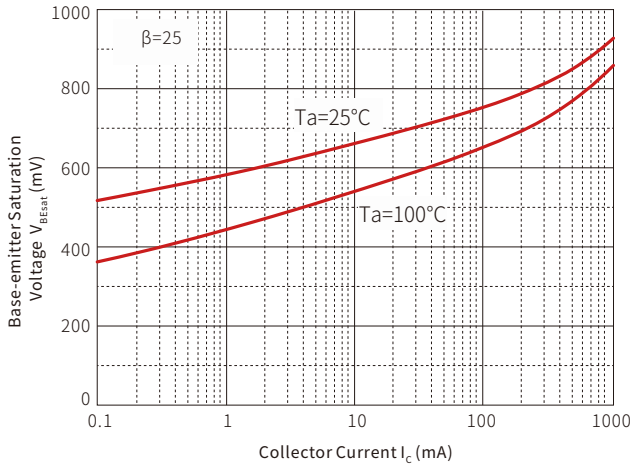
h_{FE} ——— I_C



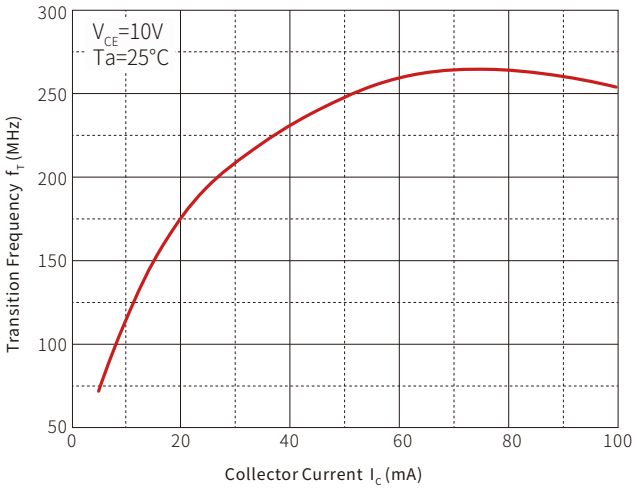
$V_{CE\ sat}$ ——— I_C



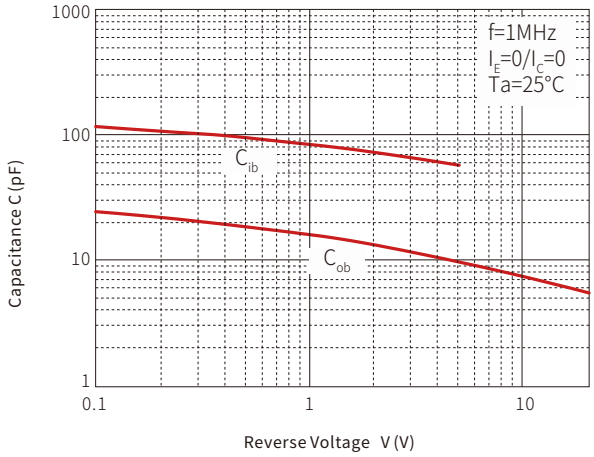
$V_{BE\ sat}$ ——— I_C



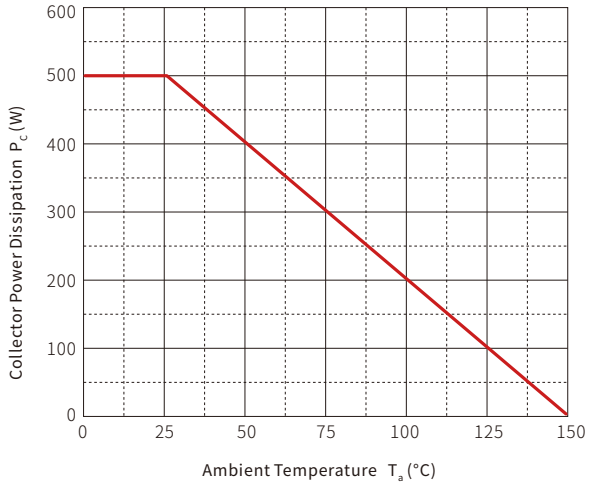
f_T ——— I_C



C_{ob}/C_{ib} ——— V_{CB}/V_{EB}

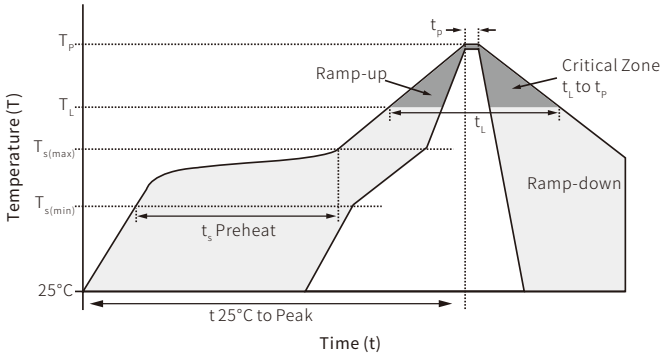


P_C ——— T_a

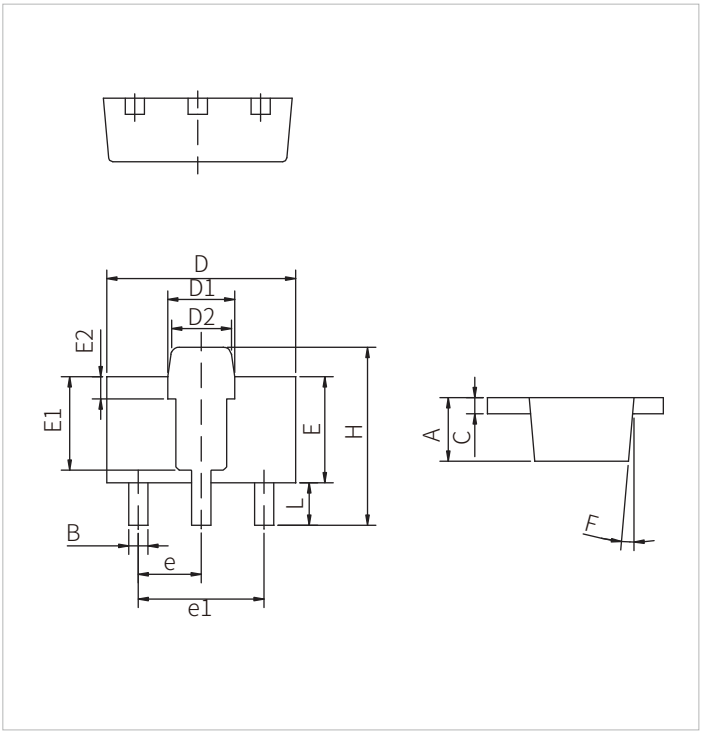


SOLDERING PARAMETERS

Reflow Condition		Lead–free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_P)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes max.
Do not exceed		260°C



SOT-89 PACKAGE DIMENSIONS



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.40		1.60	0.055		0.063
B	0.40		0.52	0.016		0.020
C	0.35		0.41	0.014		0.016
D	4.40		4.60	0.173		0.181
D1	1.50		1.70	0.059		0.067
D2	1.30		1.50	0.051		0.059
E	2.40		2.60	0.094		0.102
E1		2.20			0.087	
E2		0.52			0.020	
e		1.50			0.059	
e1		3.00			0.118	
F		5.00			5.000	
H	4.05		4.25	0.159		0.167
L	0.89		1.20	0.035		0.047

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size	Box	Carton
2SD1898	SOT-89	1000PCS	7”	6000PCS	30000PCS

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