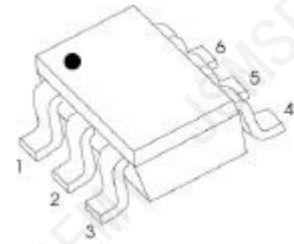


FEATURES

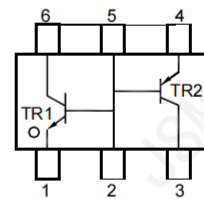
Epitaxial Die Construction

Two isolated NPN/PNP(BC847W+BC857W)

Transistors in one package


MAXIMUM RATINGS TR1 (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V _{CB0}	Collector-Base Voltage	50	V
V _{CE0}	Collector-Emitter Voltage	45	V
V _{EB0}	Emitter-Base Voltage	6	V
I _C	Collector Current –Continuous	0.1	A
P _C	Collector Power Dissipation	200	mW
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C


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CHARACTERISTICS of TR1 (NPN Transistor) (T_a=25°C unless otherwise specified)

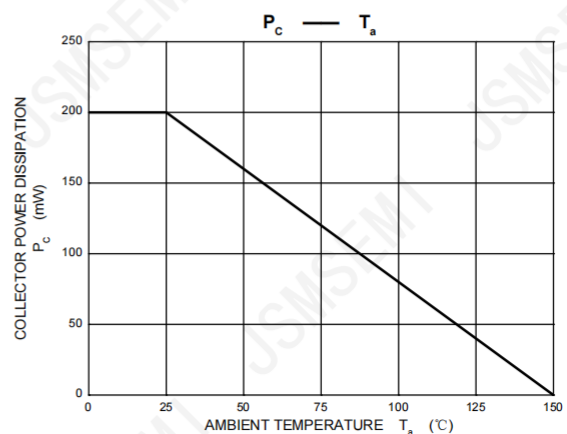
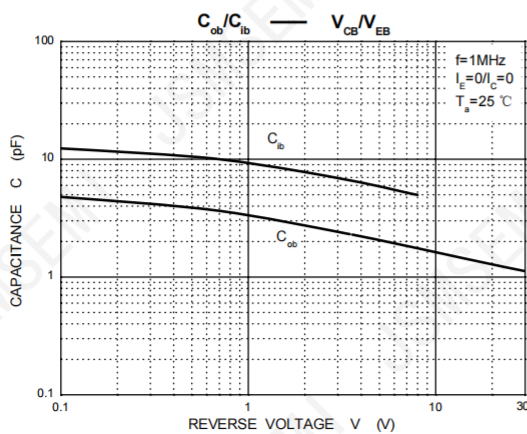
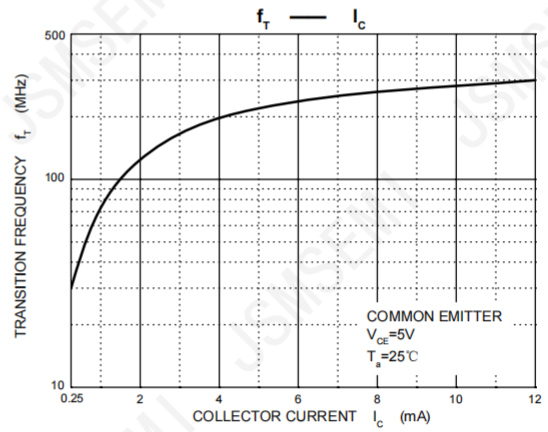
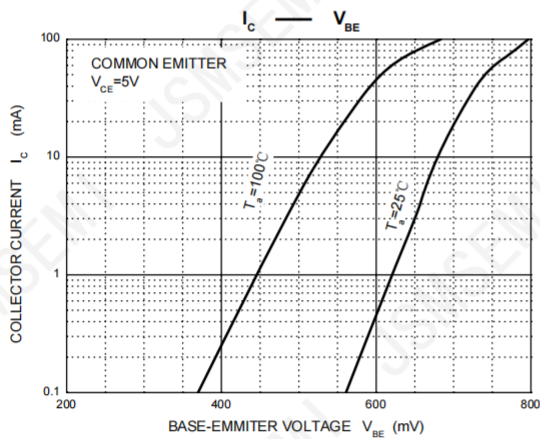
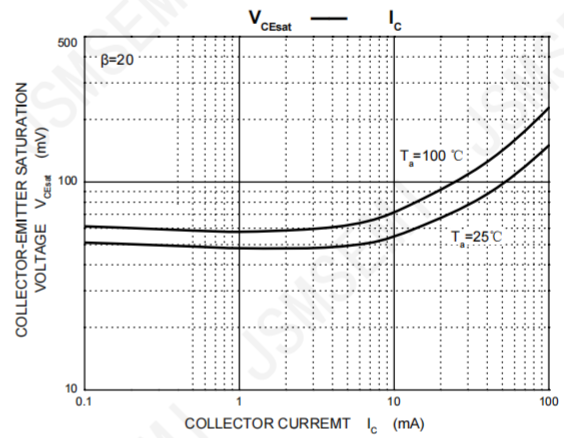
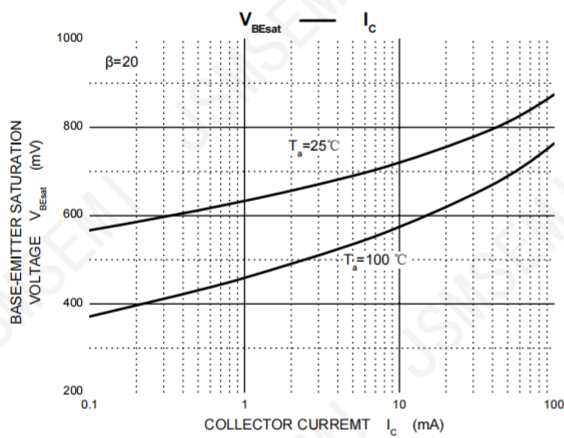
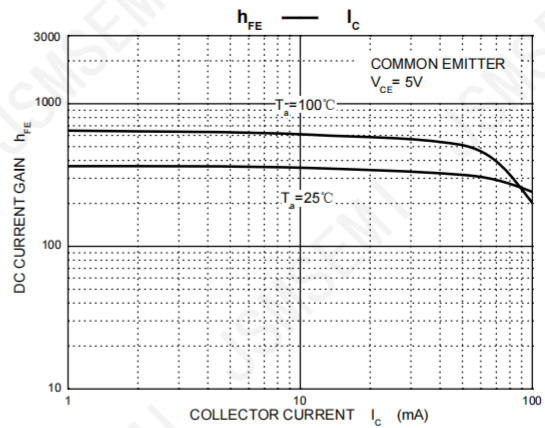
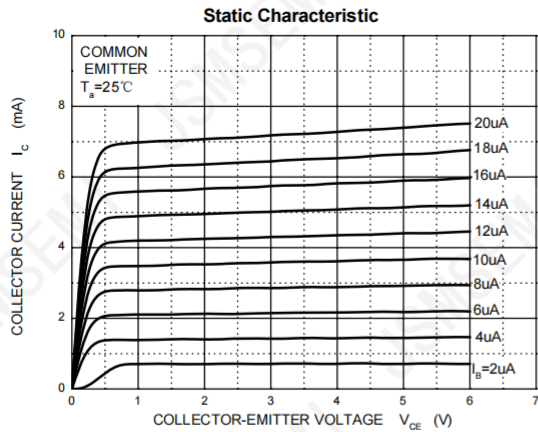
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =10μA, I _E =0	50			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =10mA, I _B =0	45			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =1μA, I _C =0	6			V
Collector cut-off current	I _{CBO}	V _{CB} =30V, I _E =0			15	nA
Emitter cut-off current	I _{EBO}	V _{EB} =5V, I _C =0			15	nA
DC current gain	h _{FE}	V _{CE} =5V, I _C =2mA	200		450	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =10mA, I _B =0.5mA			0.25	V
	V _{CE(sat)}	I _C =100mA, I _B =5mA			0.6	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C =10mA, I _B =0.5mA		0.7		V
	V _{BE(sat)}	I _C =100mA, I _B =5mA		0.9		V
Base-emitter voltage	V _{BE(on)}	V _{CE} =5V, I _C =2mA	0.58		0.7	V
	V _{BE(on)}	V _{CE} =5V, I _C =10mA			0.72	V
Collector output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz			6.0	pF
Transition frequency	f _T	V _{CE} =5V, I _C =10mA, f=100MHz	100			MHz
Noise figure	NF	V _{CE} =5V, I _C =0.2mA, f=1kHz, R _g =2KΩ, Δf=200Hz			10	dB

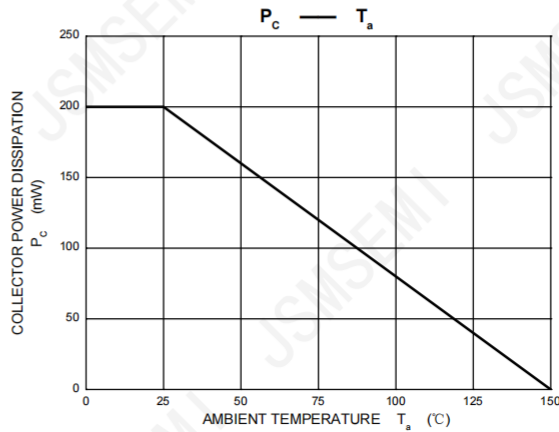
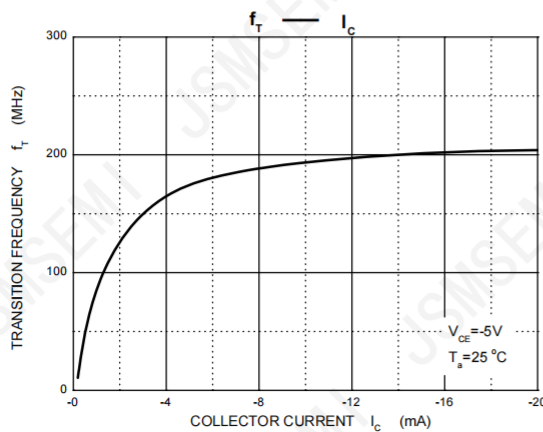
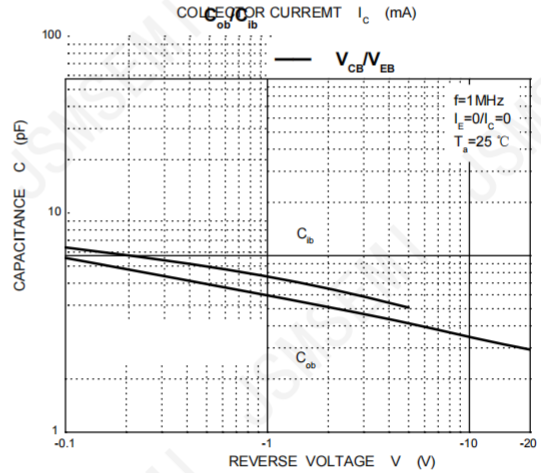
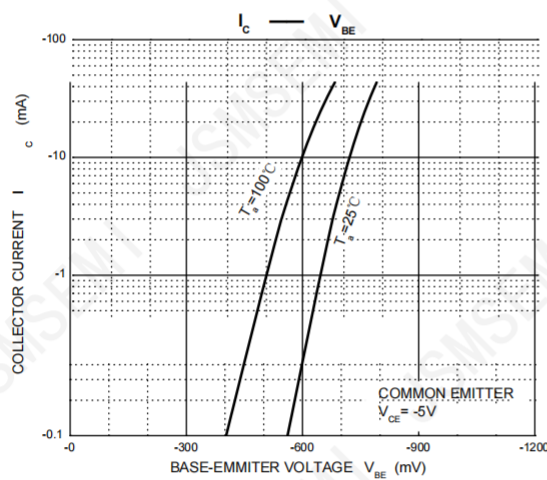
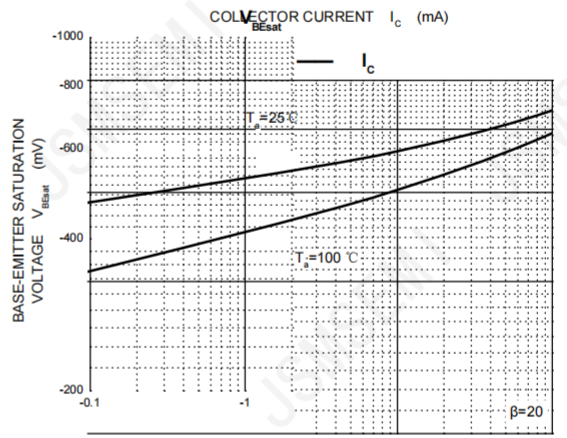
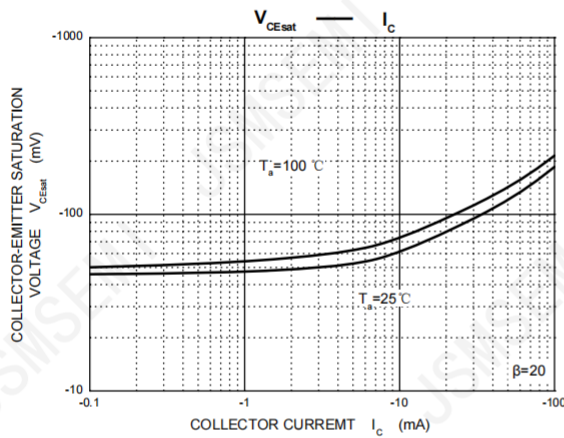
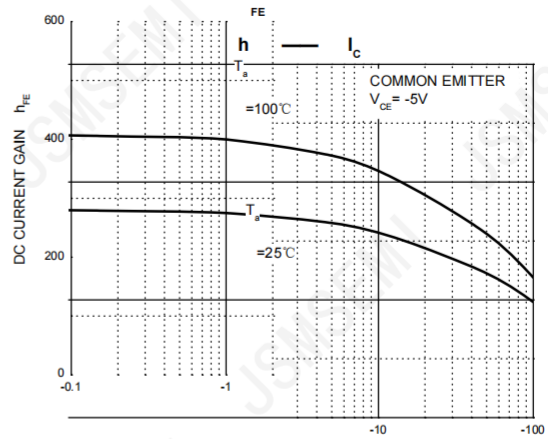
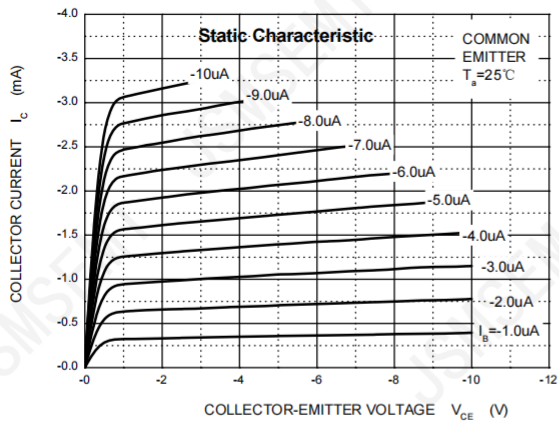
MAXIMUM RATINGS TR2 ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-50	V
V_{CEO}	Collector-Emitter Voltage	-45	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_{C}	Collector Current –Continuous	-0.1	A
P_{C}	Collector Power Dissipation	200	mW
T_{J}	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

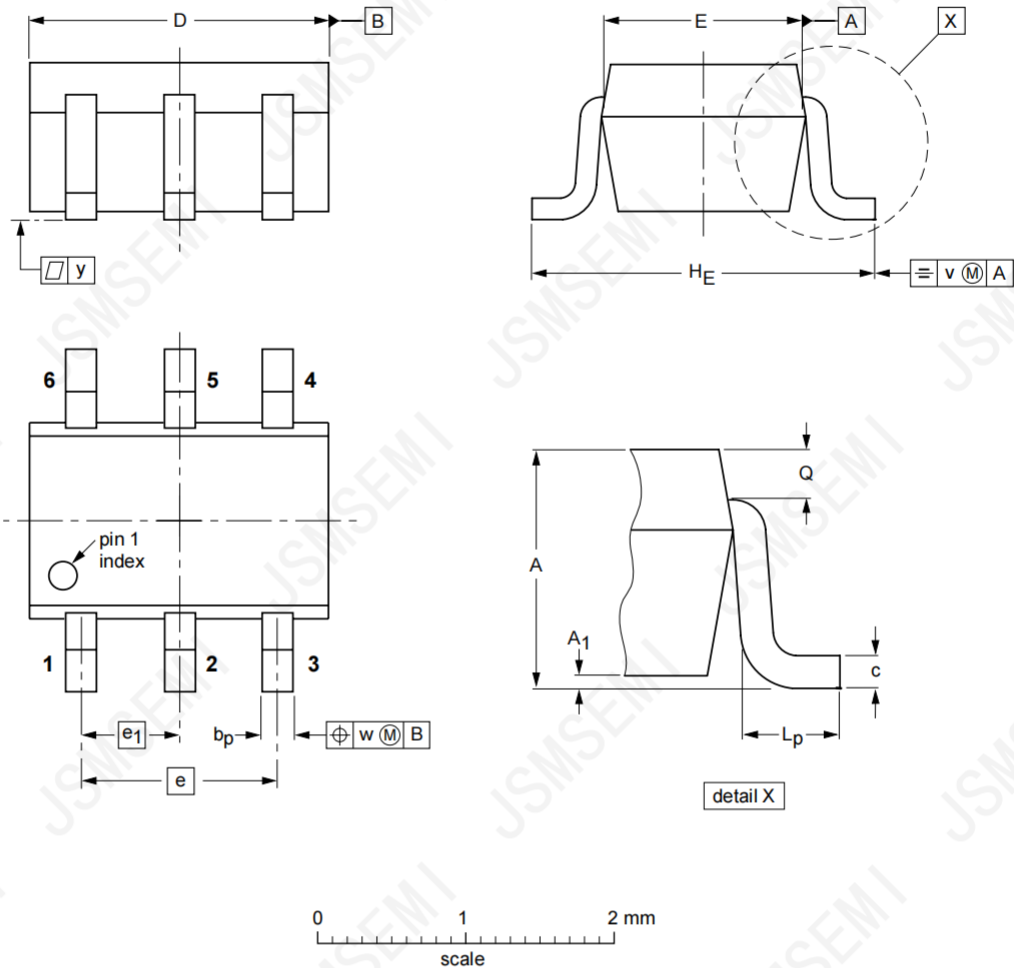
CHARACTERISTICS of TR2 (PNP Transistor) ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	$I_{\text{C}}=-10\mu\text{A}, I_{\text{E}}=0$	-50			V
Collector-emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	$I_{\text{C}}=-10\text{mA}, I_{\text{B}}=0$	-45			V
Emitter-base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	$I_{\text{E}}=-1\mu\text{A}, I_{\text{C}}=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{\text{CB}}=-30\text{V}, I_{\text{E}}=0$			-15	nA
Emitter cut-off current	I_{EBO}	$V_{\text{EB}}=-5\text{V}, I_{\text{C}}=0$			-15	nA
DC current gain	h_{FE1}	$V_{\text{CE}}=-5\text{V}, I_{\text{C}}=-2\text{mA}$	220		475	
Collector-emitter saturation voltage	$V_{\text{CE}(\text{sat})}$	$I_{\text{C}}=-10\text{mA}, I_{\text{B}}=-0.5\text{mA}$			-0.3	V
	$V_{\text{CE}(\text{sat})}$	$I_{\text{C}}=-100\text{mA}, I_{\text{B}}=-5\text{mA}$			-0.65	V
Base-emitter saturation voltage	$V_{\text{BE}(\text{sat})}$	$I_{\text{C}}=-10\text{mA}, I_{\text{B}}=-0.5\text{mA}$		-0.7		V
	$V_{\text{BE}(\text{sat})}$	$I_{\text{C}}=-100\text{mA}, I_{\text{B}}=-5\text{mA}$			-0.95	V
Base-emitter voltage	$V_{\text{BE}(\text{on})}$	$V_{\text{CE}}=-5\text{V}, I_{\text{C}}=-2\text{mA}$	-0.6		-0.75	V
	$V_{\text{BE}(\text{on})}$	$V_{\text{CE}}=-5\text{V}, I_{\text{C}}=-10\text{mA}$			-0.82	V
Collector output capacitance	C_{ob}	$V_{\text{CB}}=-10\text{V}, I_{\text{E}}=0, f=1\text{MHz}$			4.5	pF
Transition frequency	f_{T}	$V_{\text{CE}}=-5\text{V}, I_{\text{C}}=-10\text{mA}, f=100\text{MHz}$	100			MHz
Noise figure	NF	$V_{\text{CE}}=-5\text{V}, I_{\text{C}}=-0.2\text{mA}, f=1\text{kHz}$ $R_{\text{g}}=2\text{K}\Omega, \Delta f=200\text{Hz}$			10	dB





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DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w	y
mm	1.1 0.8	0.1	0.30 0.20	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.25 0.15	0.2	0.2	0.1

Revision History

Rev.	Change	Date
V1.0	Initial version	2/23/2024

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