

PBSS5240SS

PNP Low $V_{CE(SAT)}$ Transistor

Voltage

-40V

Current

-2A

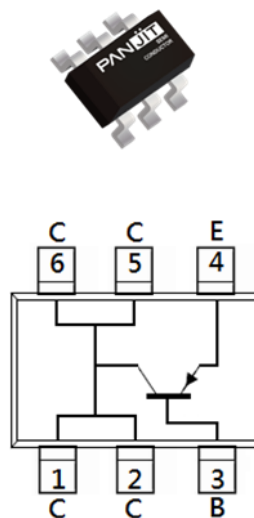
Features

- Silicon PNP epitaxial type
- Low $V_{CE(SAT)}$ -0.35V(max)@ $I_C/I_B = -2A / -200mA$
- High collector current capability
- Excellent DC current gain characteristics
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC61249 Standard
- NPN complement : PBSS4240SS

Mechanical Data

- Case : SOT-23 6L-1 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.014 grams

SOT-23 6L-1



Maximum Ratings and Thermal Characteristics ($T_A=25^{\circ}C$ unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNIT
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	
Emitter-Base Voltage	V_{EBO}	-5	
Collector Current (DC)	I_C	-2	A
Collector Current (Pulse)	I_{CM}	-3	
Base Current (DC)	I_B	-0.2	
Base Current (Pulse)	I_{BM}	-0.3	
Power Dissipation	P_D	1	W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~150	$^{\circ}C$
Thermal Resistance From Junction to Ambient ^(Note 2)	$R_{\theta JA}$	125	$^{\circ}C/W$

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Electrical Characteristics (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
OFF Characteristics						
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _C = -10mA, I _B = 0A	-40	-	-	V
Collector-Base Breakdown Voltage	BV _{CBO}	I _C = -0.1mA, I _E = 0A	-40	-	-	
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E = -0.1mA, I _C = 0A	-5	-	-	
Collector Cutoff Current	I _{CBO}	V _{CB} = -40V, I _E = 0A	-	-	-100	nA
Emitter Cutoff Current	I _{EBO}	V _{EB} = -5V, I _C = 0A	-	-	-100	
Collector-Emitter Cutoff Current	I _{CES}	V _{CES} = -40V, I _E = 0A	-	-	-100	
ON Characteristics						
DC Current Gain ^(Note 1)	h _{FE}	V _{CE} = -2V, I _C = -100mA	300	400	600	-
		V _{CE} = -2V, I _C = -500mA	260	-	-	
		V _{CE} = -2V, I _C = -1A	210	-	-	
		V _{CE} = -2V, I _C = -2A	100	-	-	
Collector-Emitter Saturation Voltage (Note 1)	V _{CE(SAT)}	I _C = -100mA, I _B = -5mA	-	-50	-100	mV
		I _C = -500mA, I _B = -50mA	-	-70	-110	
		I _C = -1A, I _B = -50mA	-	-140	-225	
		I _C = -2A, I _B = -200mA	-	-240	-350	
Collector-Emitter Saturation resistance	R _{CE(SAT)}	I _C = -500mA, I _B = -50mA	-	140	220	mΩ
Base-Emitter Saturation Voltage ^(Note 1)	V _{BE(SAT)}	I _C = -2A, I _B = -200mA	-	-	-1.2	V
Base-Emitter Turn-On Voltage ^(Note 1)	V _{BE(ON)}	V _{CE} = -2V, I _C = -100mA	-	-	-0.75	
Transition Frequency	f _T	V _{CE} = -10V, I _E = -100mA	100	-	-	MHz
Base input Capacitance	C _{IB}	V _{EB} = -0.5V, f=1MHz	-	146	-	pF
Collector Output Capacitance	C _{OB}	V _{CB} = -10V, f=1MHz	-	18	-	

Notes :

1. Pulse width≤300us, Duty cycle≤2%.
2. Mounted on FR4 PCB at 1 inch square copper pad.

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TYPICAL CHARACTERISTIC CURVES

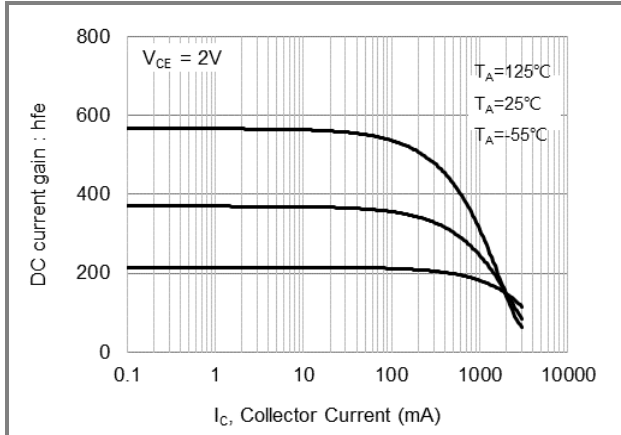


Fig.1 DC Current Gain

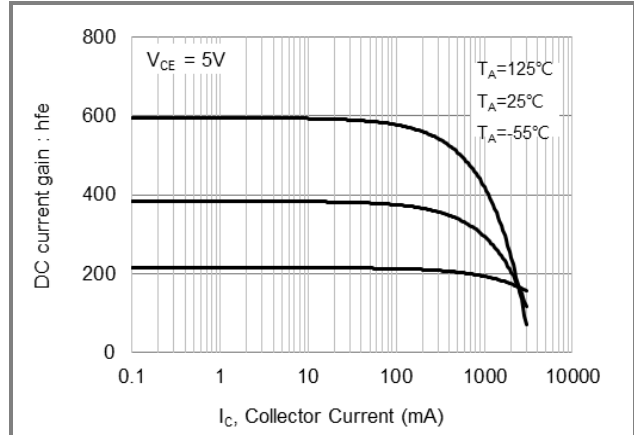


Fig.2 DC Current Gain

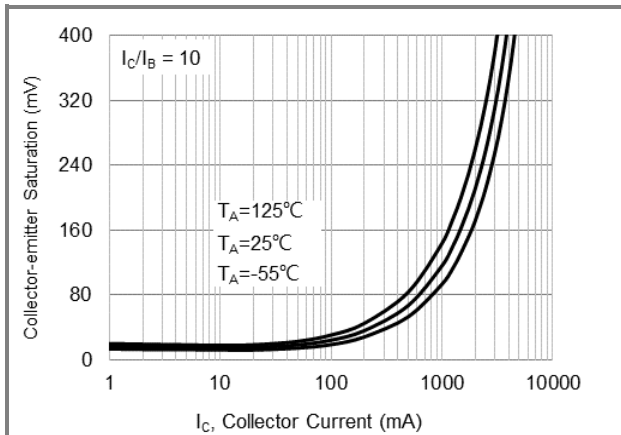


Fig.3 Collector-Emitter Saturation Voltage

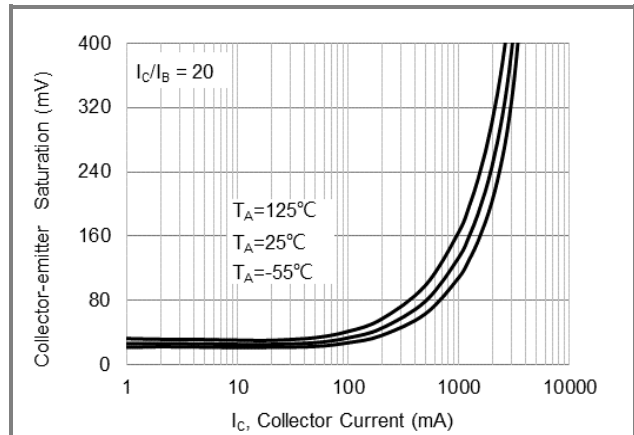


Fig.4 Collector-Emitter Saturation Voltage

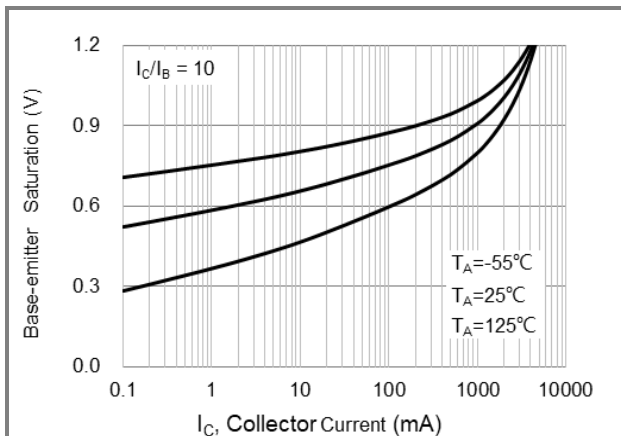


Fig.5 Base-Emitter Saturation Voltage

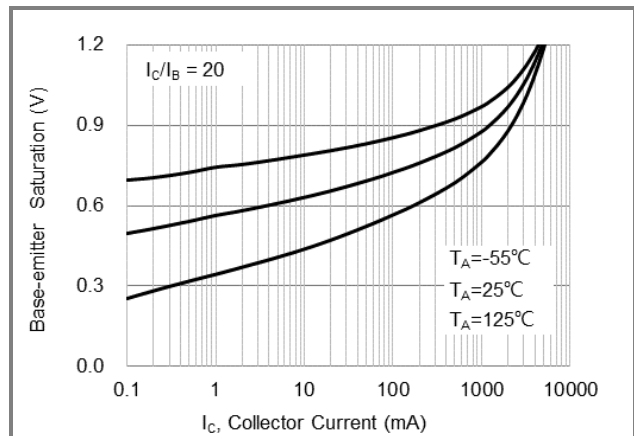


Fig.6 Base-Emitter Saturation Voltage

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TYPICAL CHARACTERISTIC CURVES

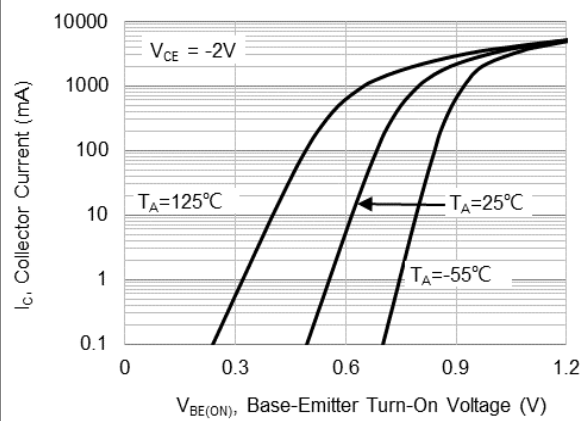


Fig.7 Base-Emitter Turn-On Voltage

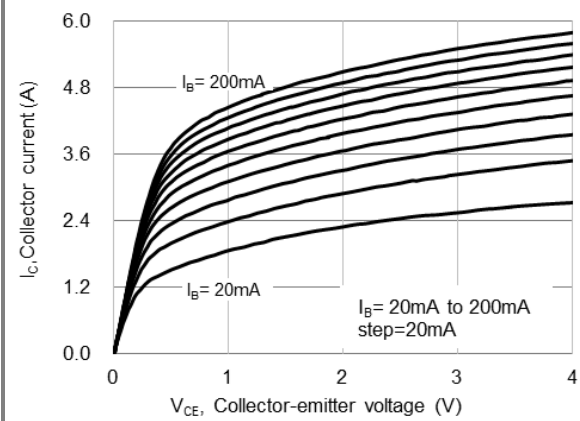


Fig.8 Collector Current

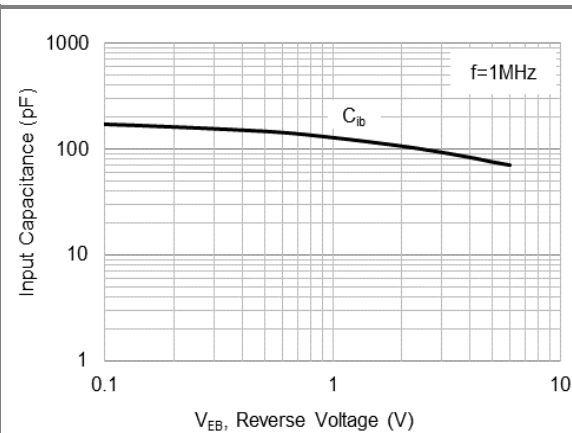


Fig.9 Input Capacitance

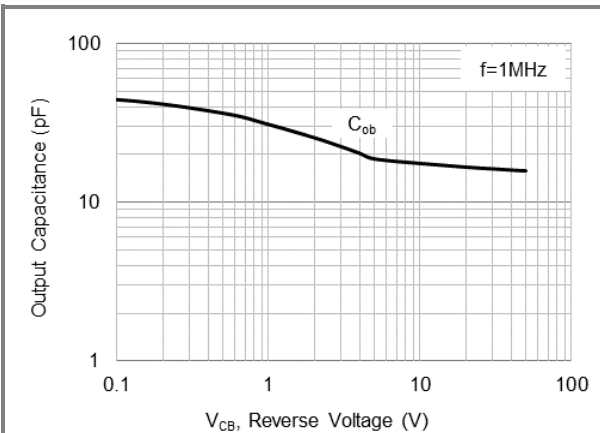


Fig.10 Output Capacitance

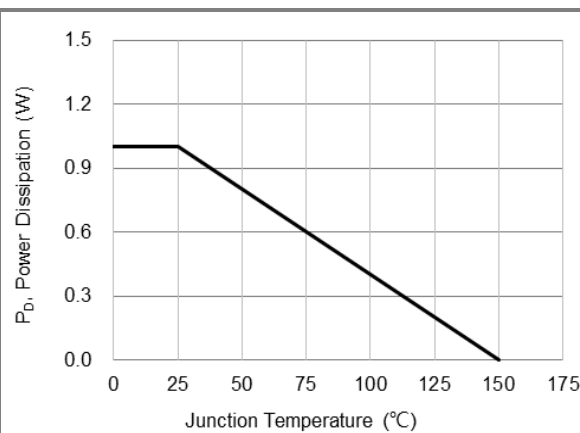


Fig.11 Power Derating Curve

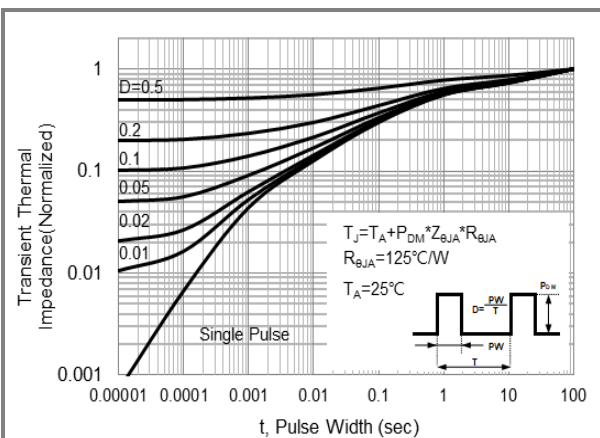


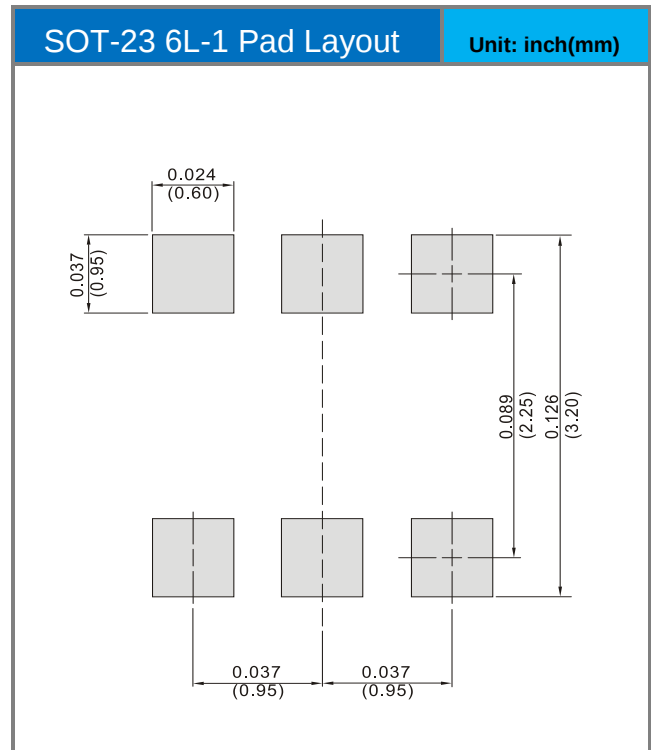
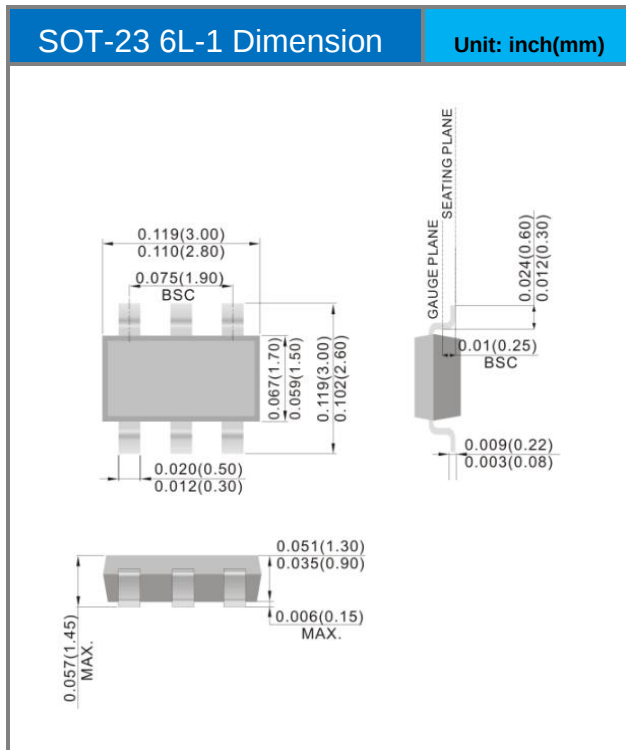
Fig.12 Normalized Transient Thermal Impedance

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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PBSS5240SS	SOT-23 6L-1	3K pcs / 7" reel	524

Packaging Information & Mounting Pad Layout



PBSS5240SS

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