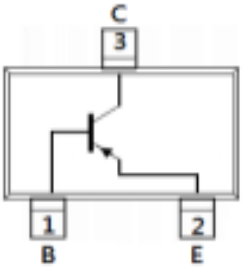
PBSS5240SA

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

Voltage	-40V	Current	-2A

SOT-23



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 : PBSS4240SA
-

Mechanical Data

- Case : SOT-23 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0084 grams

Maximum Ratings and Thermal Characteristics (T_A=25°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	0.83	W
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55~150	°C
Thermal Resistance From Junction to Ambient(Note 2)	$R_{\theta JA}$	150	°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.

PBSS5240SA

TYPICAL CHARACTERISTIC CURVES

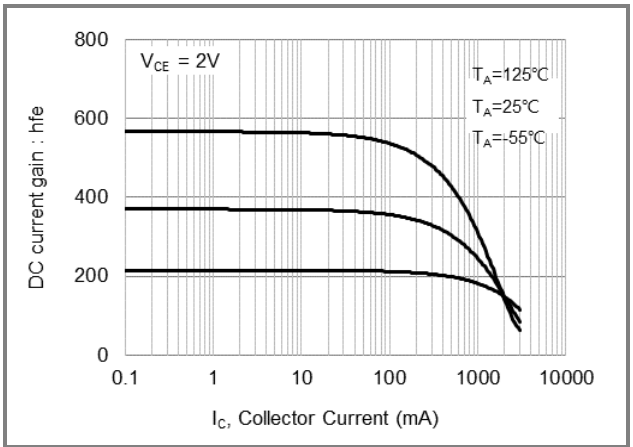

Fig.1 DC Current Gain

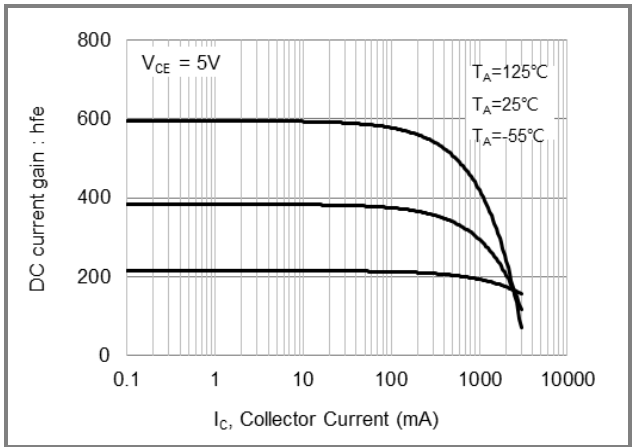

Fig.2 DC Current Gain

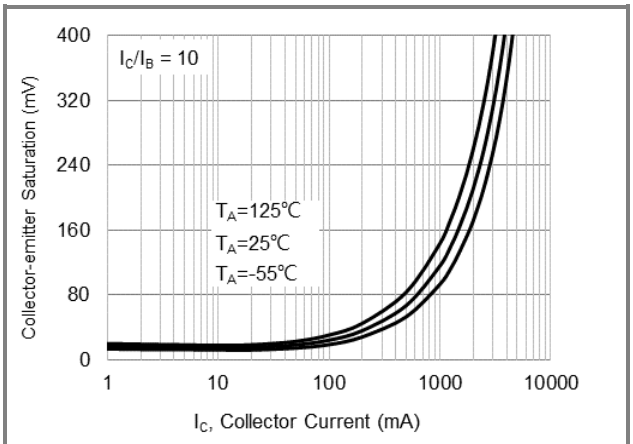

Fig.3 Collector-Emitter Saturation Voltage

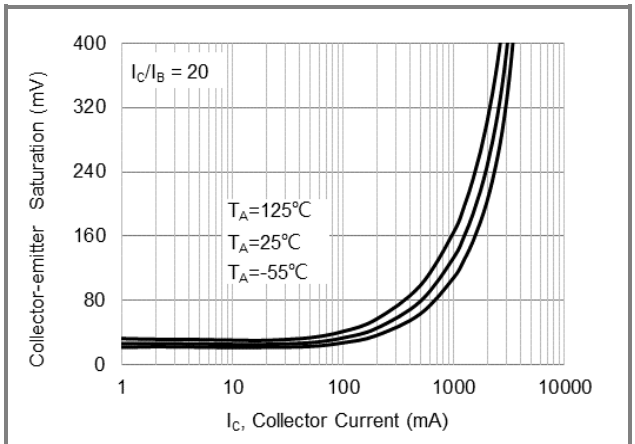

Fig.4 Collector-Emitter Saturation Voltage

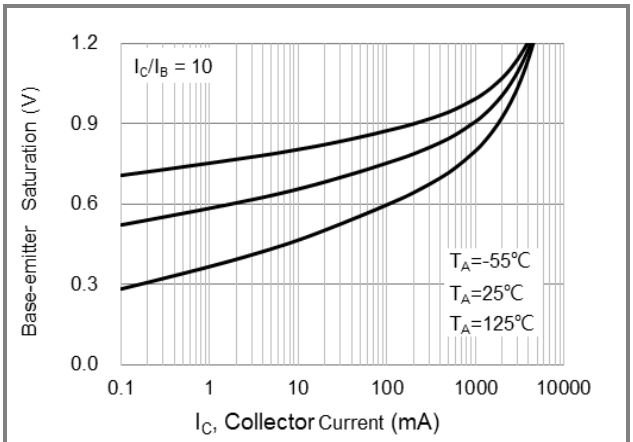

Fig.5 Base-Emitter Saturation Voltage

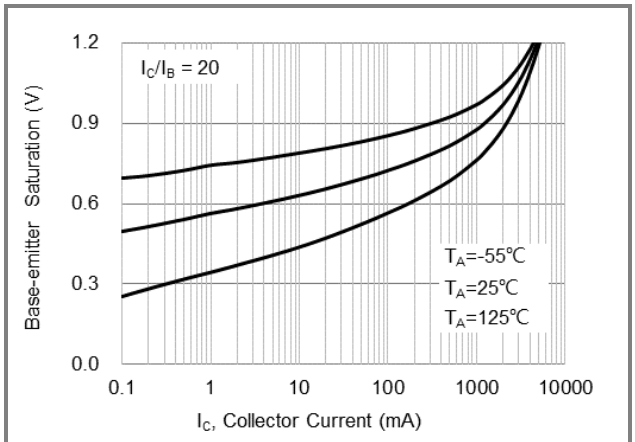

Fig.6 Base-Emitter Saturation Voltage

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TYPICAL CHARACTERISTIC CURVES

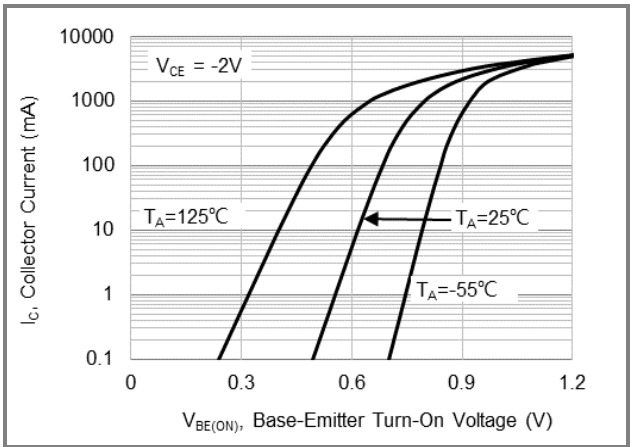


Fig.7 Base-Emitter Turn-On Voltage

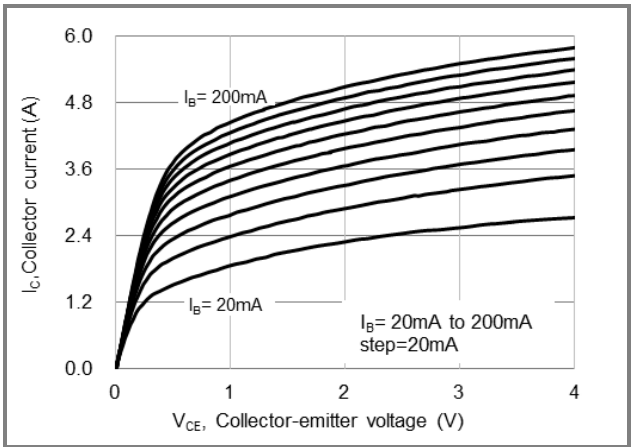


Fig.8 Collector Current

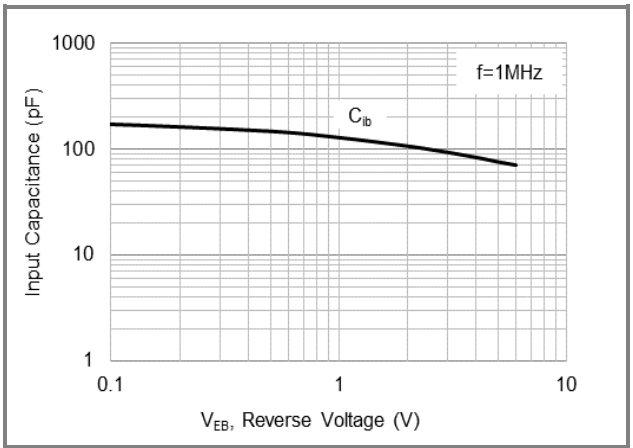


Fig.9 Input Capacitance

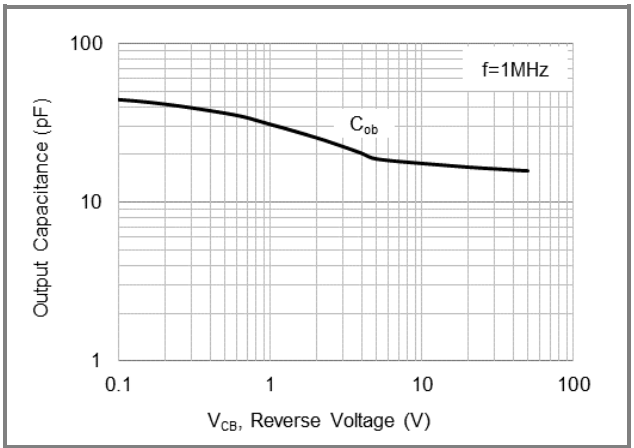


Fig.10 Output Capacitance

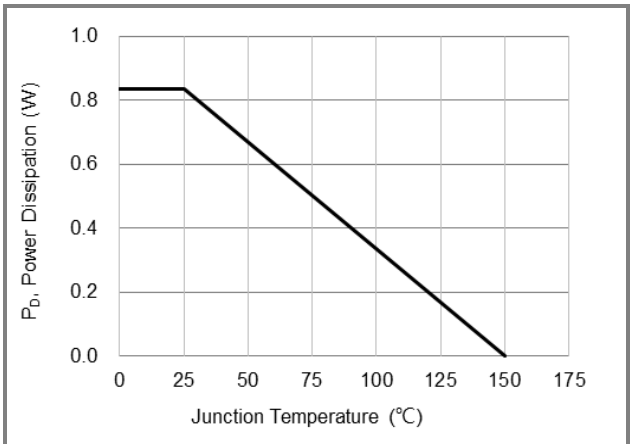


Fig.11 Power Derating Curve

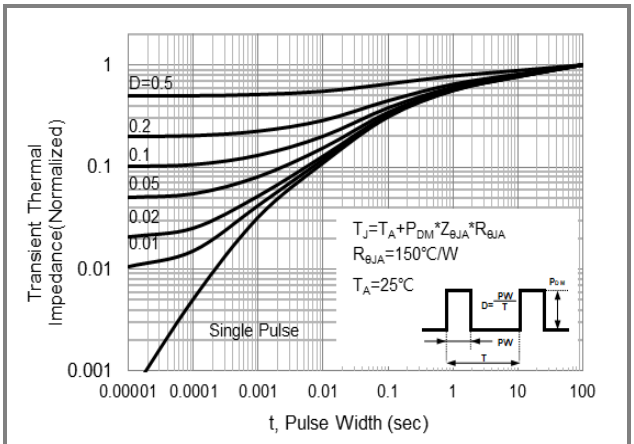


Fig.12 Normalized Transient Thermal Impedance

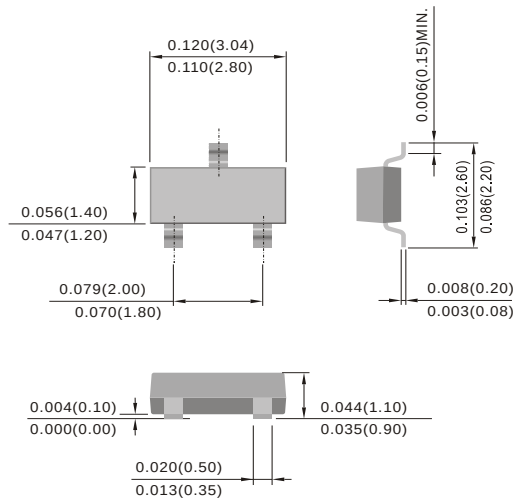
PBSS5240SA

Product and Packing Information

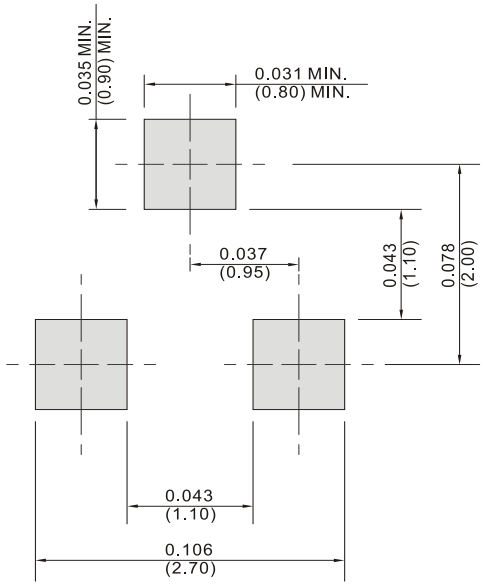
Part No.	Package Type	Packing Type	Marking
PBSS5240SA	SOT-23	3K pcs / 7” reel	524

Packaging Information & Mounting Pad Layout

SOT-23 Dimension — Unit: inch(mm)



SOT-23 Pad Layout — Unit: inch(mm)



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