

PNP Transistor

40V 0.3W SOT-23

2N4403S

MERITEK

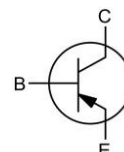
FEATURE

- Silicon Planar Design For High Voltage Application
- Collector-Emitter Voltage $V_{CE} = -40V$
- Collector Current: -600mA
- Application: Signal Processing, Switching, Amplification



MECHANICAL DATA

- Case: SOT-23, molded plastic
- Terminals: Solderable per MIL-STD-750, Method 2026

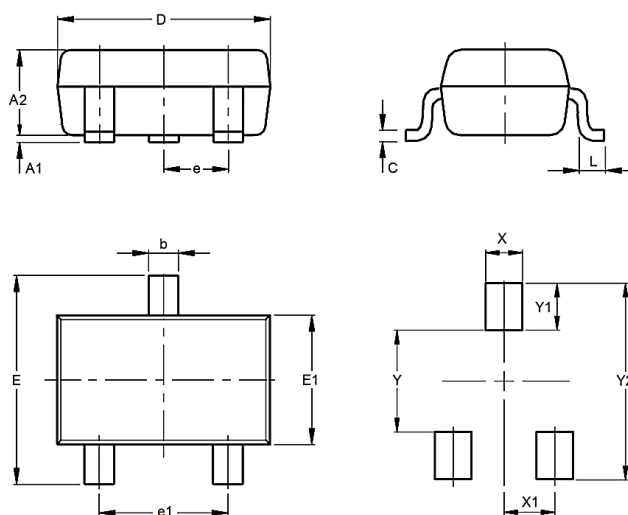


MAXIMUM RATING

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-600	mA
Total Power Dissipation	P_{tot}	300	mW
Typical Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	417	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	-55 ~ +150	°C

DIMENSIONS

Item	Min (mm)	Max (mm)
A1	--	0.10
A2	0.89	1.40
b	0.30	0.50
c	0.08	0.20
D	2.70	3.10
e	0.89	1.02
e1	1.78	2.04
E	2.10	2.80
E1	1.20	1.60
L	0.15	--
X	0.80	
X1	0.95	
Y	1.00	
Y1	1.00	
Y2	3.00	



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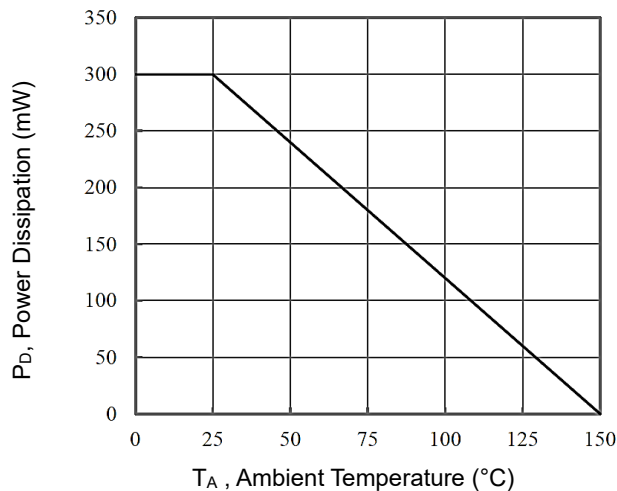
ELECTRICAL CHARACTERISTICS

Parameter- ON Characteristic	Conditions	Symbol	Min.	Max.	Unit
DC Current Gain	$V_{CE} = -1.0V, I_C = -0.1mA$	h_{FE}	30	-	-
	$V_{CE} = -1.0V, I_C = -1.0mA$		60	-	
	$V_{CE} = -1.0V, I_C = -10mA$		100	-	
	$V_{CE} = -2.0V, I_C = -150mA$		100	300	
	$V_{CE} = -2.0V, I_C = -500mA$		20	-	
Collector-Emitter Saturation Voltage	$I_C = -150mA, I_B = -15mA$	$V_{CE(SAT)}$	-	-0.40	V
	$I_C = -500mA, I_B = -50mA$		-	-0.75	V
Base-Emitter Saturation Voltage	$I_C = -150mA, I_B = -15mA$	$V_{BE(SAT)}$	-0.75	-0.95	V
	$I_C = -500mA, I_B = -50mA$		-	-1.30	V
Parameter- OFF Characteristics	Conditions	Symbol	Min.	Max.	Unit
Collector-Base Breakdown Voltage	$I_C = -0.1mA$	$V_{(BR)CBO}$	-40	-	V
Collector-Emitter Breakdown Voltage	$I_C = -1.0mA$	$V_{(BR)CEO}$	-40	-	V
Emitter-Base Breakdown Voltage	$I_E = -0.1mA$	$V_{(BR)EBO}$	-5	-	V
Base Cut-Off Current	$V_{CB} = -35V$	I_{CBO}	-	-0.1	μA
Emitter Cut-Off Current	$V_{EB} = -5V$	I_{EBO}	-	-0.1	μA
Collector Capacitance	$V_{CB} = -10V, -I_E = 0, f = 1MHz$	C	-	8.5	pF
Delay Time	$V_{CC} = -30V, I_C = -150mA, I_{B1} = -15mA,$ $V_{EB} = -2V$	t_d	-	15	nS
Rise Time		t_r	-	20	nS
Storage Time	$V_{CC} = -30V, I_C = -150mA,$ $I_{B1} = I_{B2} = -15mA$	t_s	-	225	nS
Fall Time		t_f	-	30	nS
Parameter-Small Signal	Conditions	Symbol	Min.	Max.	Unit
Current-Gain – Bandwidth Product	$I_C = -20mA, V_{CE} = -10V, f = 100MHz$	f_T	250	-	MHz

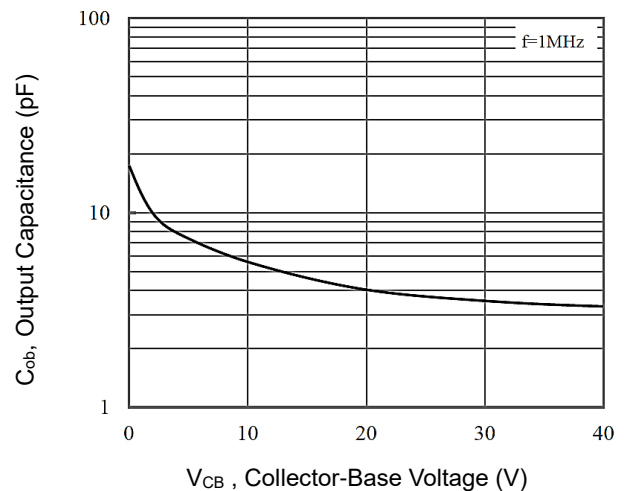
Note: $T_A = 25^\circ C$ unless otherwise noted.

CHARACTERISTIC CURVES

Power Derating

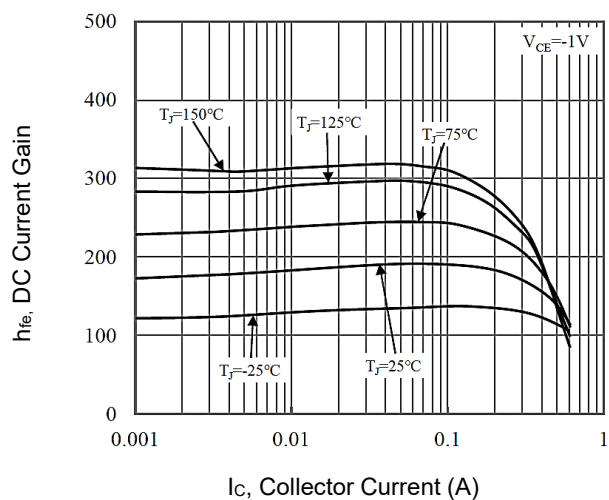


Output Capacitance

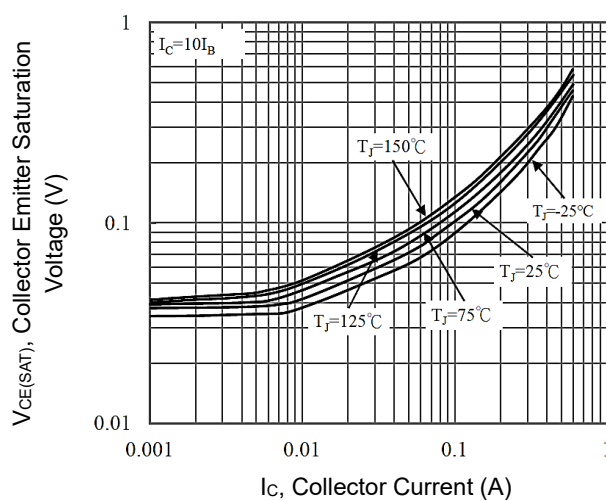


CHARACTERISTIC CURVES

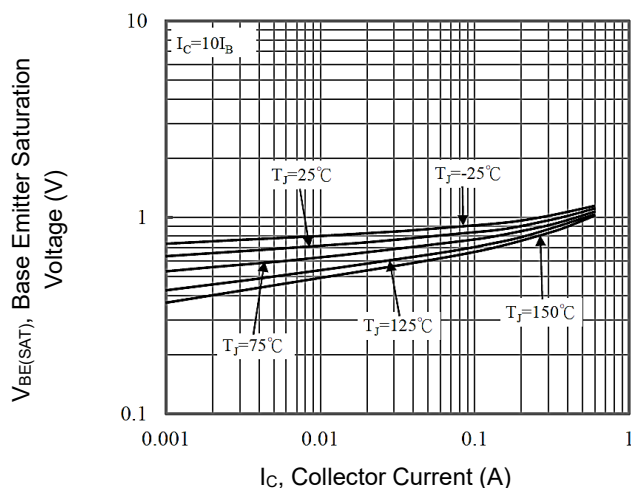
Current Gain



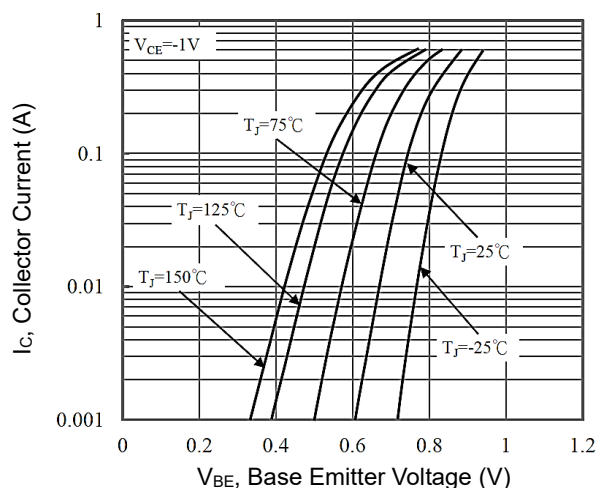
Collector Emitter Saturation Voltage



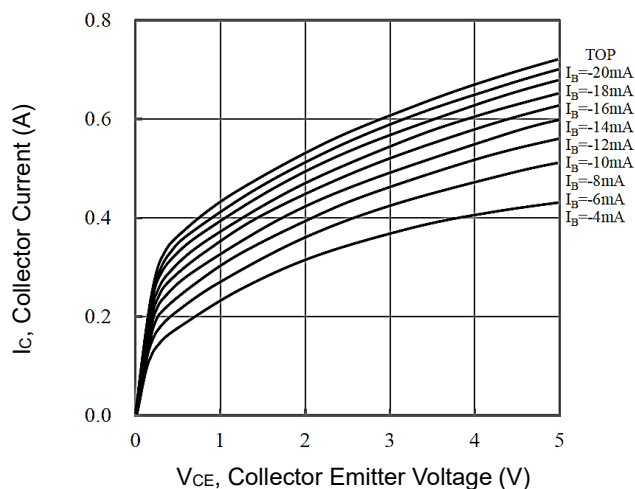
Base Emitter Saturation Voltage



Base Emitter Saturation Voltage



Grounded Emitter Output Characteristics



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