

Transistor NPN

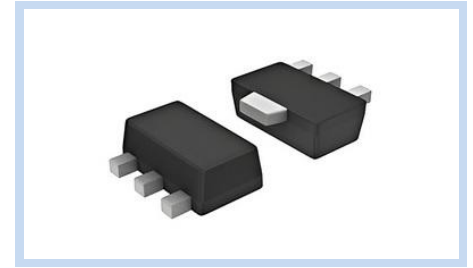
50V 1.6W SOT-89

2SD350C3

MERITEK

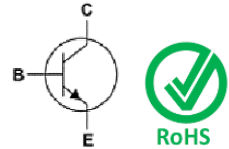
FEATURE

- Low collector-emitter saturation voltage
- High collector current capability
- Reduced printed-circuit board requirements
- Application: DC/DC Converters, Supply Line Switching, Battery Charger, LCD Backlighting



MECHANICAL DATA

- Case: SOT-89, Molded Epoxy Meets UL94V-0
- Terminals: Solderable per MIL-STD-750, Method 2026

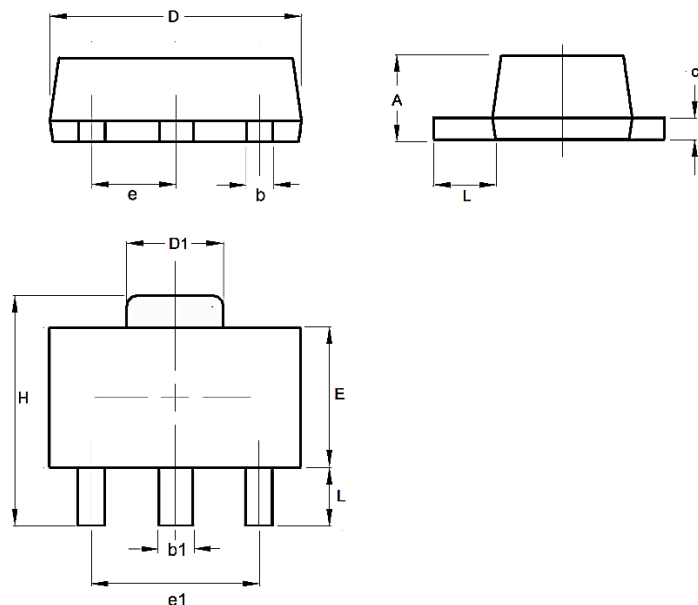


MAXIMUM RATING

Parameter		Symbol	Value	Unit
Collector-Base Voltage		V_{CBO}	50	V
Collector-Emitter Voltage		V_{CEO}	50	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current		I_C	3	A
Peak Collector Current		I_{CM}	5	A
Power Dissipation	Note 2	P_D	1.0	W
	Note 3		1.6	
Thermal Resistance from Junction to Ambient	Note 2	$R_{\theta JA}$	125	°C/W
	Note 3		78	
Junction Temperature		T_J	150	°C
Storage Temperature Range		T_{stg}	-55 ~ +150	°C

DIMENSIONS

Item	Min (mm)	Max (mm)
A	1.40	1.60
b	0.35	0.45
b1	0.41	0.51
c	0.30	0.50
D	4.40	4.60
D1	1.50	1.60
e	3.00	
E	2.40	2.60
H	3.75	4.25
L	0.95	1.05



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ELECTRICAL CHARACTERISTICS

Parameter- ON Characteristic	Conditions	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain	$V_{CE}=2V, I_C=0.1A$	h_{FE}	300	-	-	-
	$V_{CE}=2V, I_C=0.5A$		300	-	-	
	$V_{CE}=2V, I_C=1A$		300	-	700	
	$V_{CE}=2V, I_C=2A$		200	-	-	
	$V_{CE}=2V, I_C=3A$		100	-	-	
Collector-Emitter Saturation Voltage	$I_C=0.5A, I_B=50mA$	$V_{CE(SAT)}$	-	-	0.08	V
	$I_C=1A, I_B=50mA$		-	-	0.16	
	$I_C=2A, I_B=100mA$		-	-	0.28	
	$I_C=2A, I_B=200mA$		-	-	0.26	
	$I_C=3A, I_B=300mA$		-	-	0.37	
Base-Emitter Saturation Voltage	$I_C=2A, I_B=100mA$	$V_{BE(SAT)}$	-	-	1.10	V
	$I_C=3A, I_B=300mA$		-	-	1.20	
Base-Emitter On Voltage	$V_{CE}=2V, I_C=1A$	$V_{BE(ON)}$	-	-	1.10	V
Parameter- OFF Characteristics	Conditions	Symbol	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$I_C=100\mu A, I_E=0$	$V_{(BR)CBO}$	50	-	-	V
Collector-Emitter Breakdown Voltage	$I_C=10mA, I_B=0$	$V_{(BR)CEO}$	50	-	-	V
Emitter-Base Breakdown Voltage	$I_E=100\mu A, I_C=0$	$V_{(BR)EBO}$	5	-	-	V
Collector Base Cut-Off Current	$V_{CB}=50V$	I_{CBO}	-	-	100	nA
Emitter Base Cut-Off Current	$V_{EB}=5V$	I_{EBO}	-	-	100	nA
Output Capacitance	$V_{CB}=10V, f=1MHz$	C_{ob}	-	-	25	pF
Parameter-Small Signal	Conditions	Symbol	Min.	Typ.	Max.	Unit
Current-Gain – Bandwidth Product	$V_{CE}=5V, I_C=100mA, f=100MHz$	f_T	100	-	-	MHz

Note:

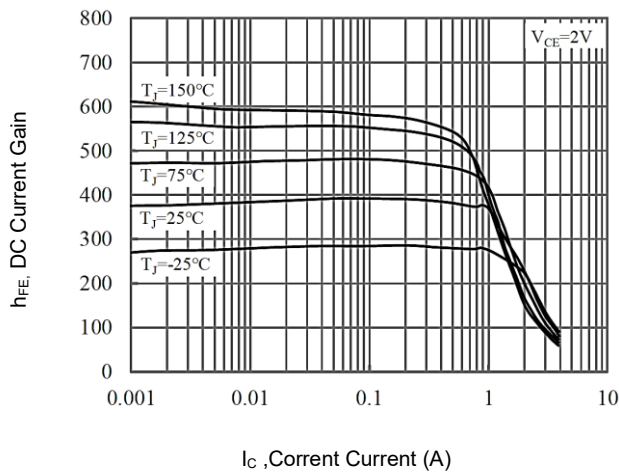
1. $T_A=25^{\circ}C$ unless otherwise noted

2. Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout

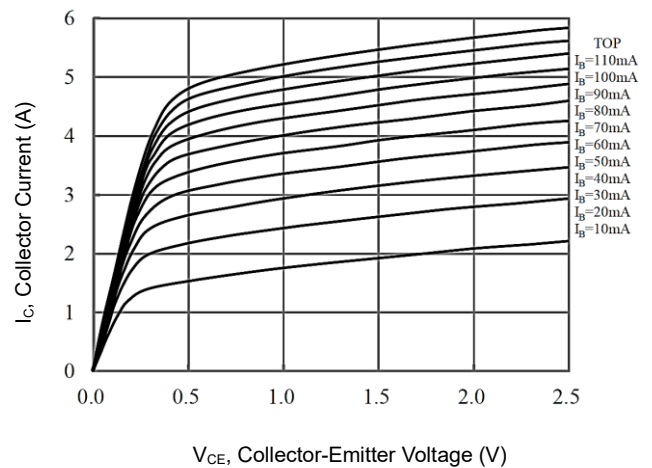
3. Device mounted on FR-4 substrate PC board, 2oz copper, with 1-inch square copper plate in still air

CHARACTERISTIC CURVES

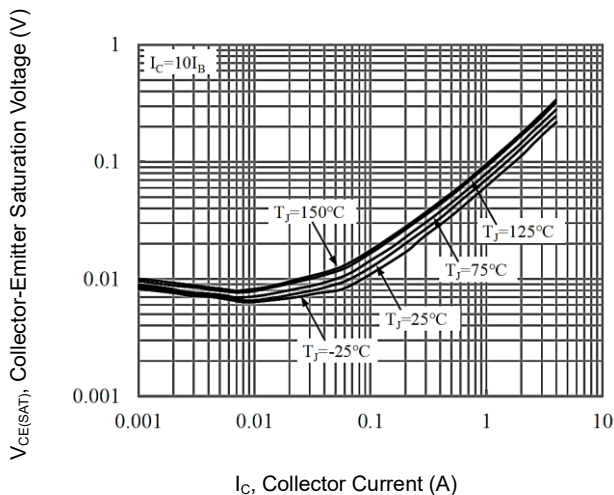
DC Current Gain



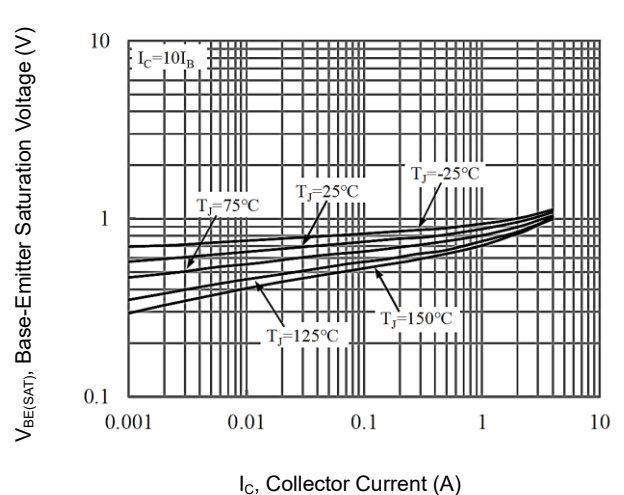
Output Characteristics



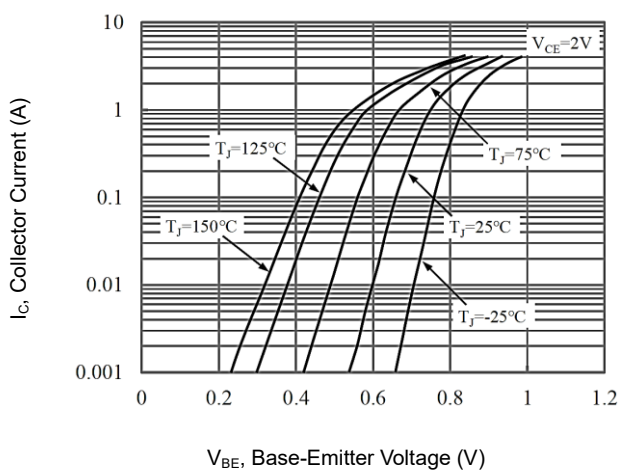
Collector-Emitter Saturation Voltage



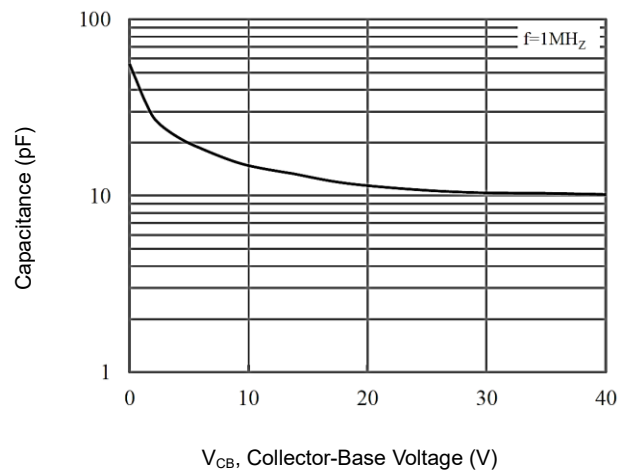
Base-Emitter Saturation Voltage



Collector Current vs. Base-Emitter Voltage



Capacitance Characteristics



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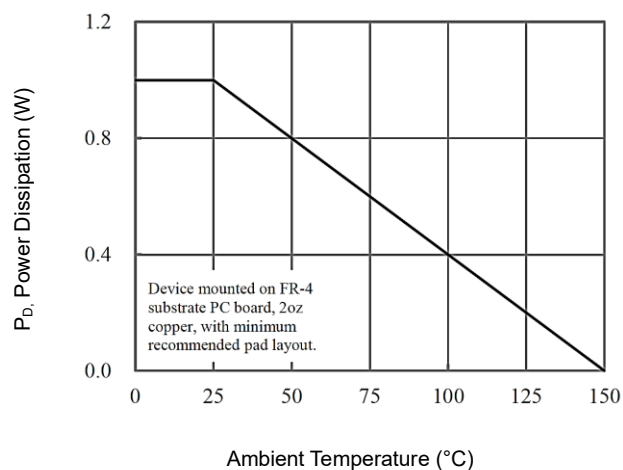
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CHARACTERISTIC CURVES

Power Derating Curves



*Specifications subject to change without notice.