GOOD-ARK
SEMICONDUCTOR

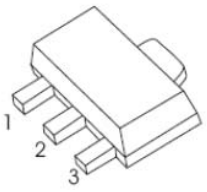
GSTFCX495U
NPN Transistor

Features

- Low collector emitter saturation voltage

Applications

Low loss power switching



1. Base
2. Collector
3. Emitter

SOT-89-3L

Absolute Maximum Ratings (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	170	V
Collector Emitter Voltage	V_{CEO}	150	V
Emitter Base Voltage	V_{EBO}	7	V
Collector Current	I_C	1	A
Collector Current, Pulse	I_{CM}	2	A
Power Dissipation	P_{tot}	1	W
Max. Thermal Resistance from Junction to Ambient[1]	$R_{\theta JA}$	125	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

Note:

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

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

Parameter	Symbol	Condition	Min.	Max.	Unit
Collector Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=100μA	170	-	V
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA	150	-	V
Emitter Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=100μA	7	-	V
Collector Base Cutoff Current	I_{CBO}	V_{CB}=150V	-	100	nA
Collector Emitter Cutoff Current	I_{CES}	V_{CE}=150V	-	100	nA
Emitter Base Cutoff Current	I_{EBO}	V_{EB}=5.6V	-	100	nA
DC Current Gain	h_{FE}	V_{CE}=10V, I_C=1mA	100	-	-
		V_{CE}=10V, I_C=250mA	100	300	-
		V_{CE}=10V, I_C=500mA	50	-	-
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=250mA, I_B=25mA	-	0.2	V
		I_C=500mA, I_B=50mA	-	0.3	
Base Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=500mA, I_B=50mA	-	1	V
Base-Emitter Turn-On Voltage	$V_{BE(on)}$	V_{CE}=10V, I_C=500mA	-	1	V
Gain Bandwidth Product	f_T	V_{CE}=10V, I_C=50mA, f=100MHz	100	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V, f=1MHz	-	10	pF

Electrical Characteristic Curves

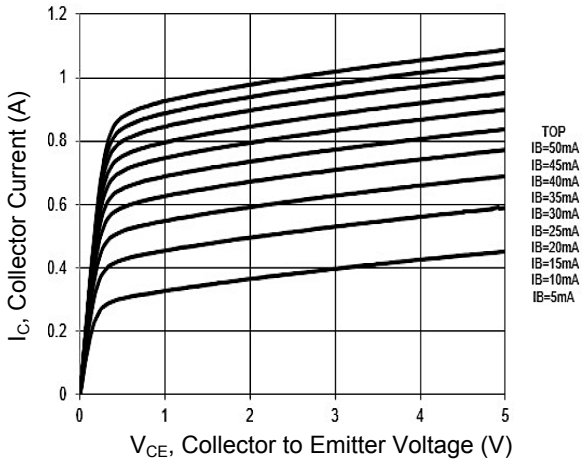


Figure 1. Output Characteristics Curve

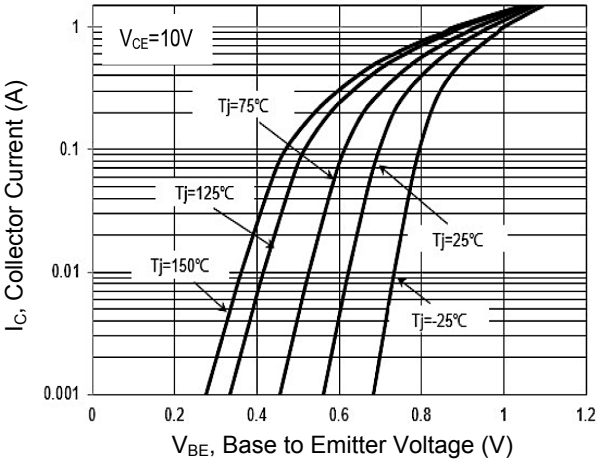


Figure 2. Collector Current vs. Base to Emitter Voltage

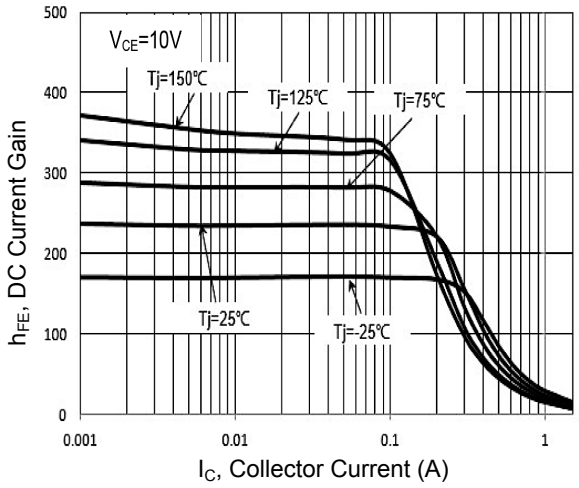


Figure 3. DC Current Gain vs. Collector Current

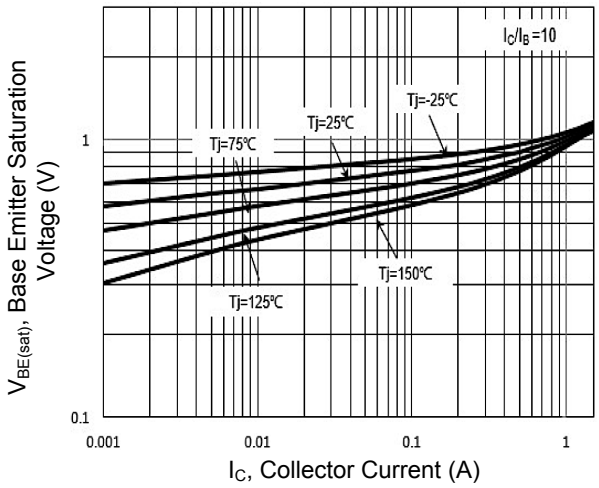


Figure 4. Base Emitter Saturation Voltage vs. Collector Current

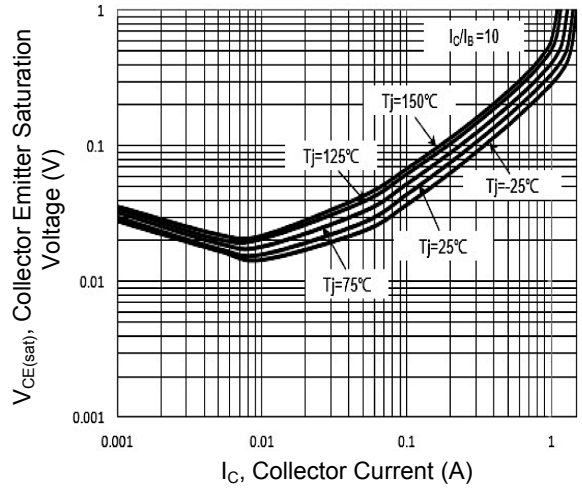


Figure 5. Collector Emitter Saturation Voltage vs. Collector Current

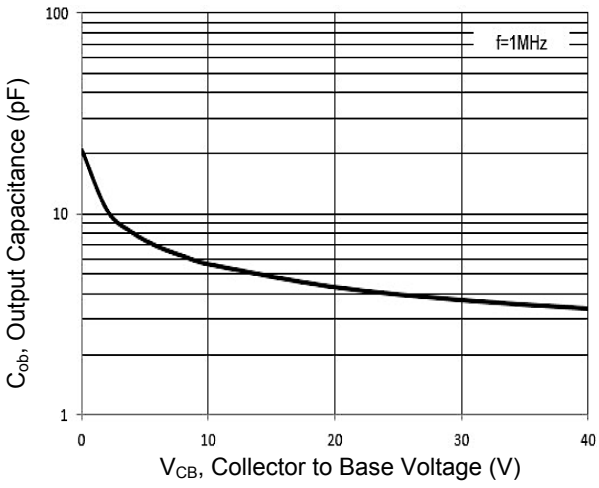


Figure 6. Output Capacitance

Electrical Characteristic Curves

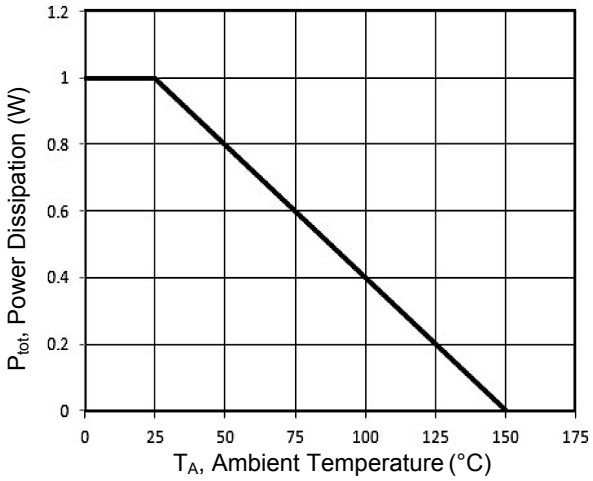
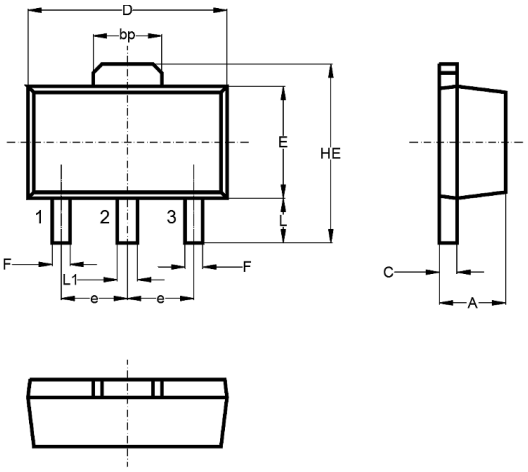


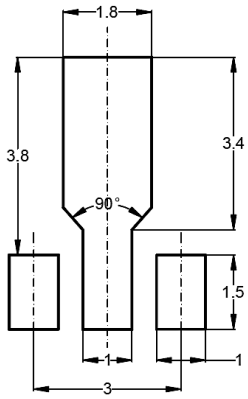
Figure 7. Power Derating Curve

Package Outline Dimensions (SOT-89-3L)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.400	1.600	0.055	0.063
bp	1.500	1.600	0.059	0.063
C	0.300	0.500	0.012	0.020
D	4.400	4.600	0.173	0.181
E	2.400	2.600	0.094	0.102
F	0.350	0.450	0.014	0.018
HE	3.750	4.250	0.148	0.167
e	1.500 Typ.		0.059 Typ.	
L	0.950	1.050	0.037	0.041
L1	0.410	0.510	0.016	0.020

Recommended Pad Layout



Unit: mm

Order Information

Device	Package	Marking	Packaging	SPQ
GSTFCX495U	SOT-89-3L	FCX495U	Tape & Reel	1,000 Pcs / Reel