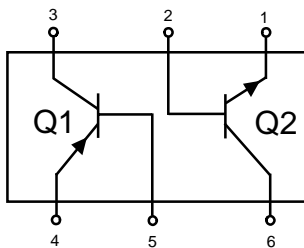
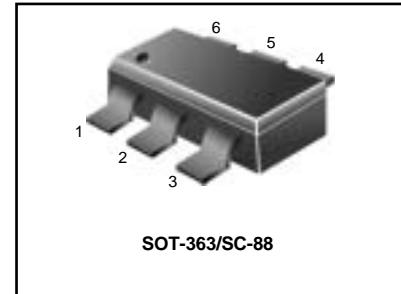


Dual General Purpose Transistors

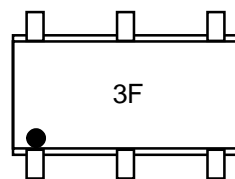
NPN/PNP Duals (Complimentary)

These transistors are designed for general purpose amplifier applications. They are housed in the SOT-363/SC-88 which is designed for low power surface mount applications.

We declare that the material of product compliance with RoHS requirements.



DEVICE MARKING



Q₁ MAXIMUM RATING (Ta=25 °C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector- Base Voltage	V _{CBO}	50	V
Collector- Emitter Voltage	V _{CEO}	45	V
Emitter- Base Voltage	V _{EBO}	6	mA
Collector Current	I _C	100	mA
Base Current	I _B	20	mA

Q₂ MAXIMUM RATING (Ta=25 °C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector- Base Voltage	V _{CBO}	- 50	V
Collector- Emitter Voltage	V _{CEO}	- 45	V
Emitter- Base Voltage	V _{EBO}	- 6	mA
Collector Current	I _C	- 100	mA
Base Current	I _B	- 20	mA

Q₁ Q₂ MAXIMUM RATING (Ta=25 °C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector Power Dissipation	P _C *	380	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	- 55 ~ 150	°C

* Total Raing. FR- 5 = 1.0 x 0.75 x 0.062 in



Q₁ ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT.
Collector Cut - off Current	I _{CBO}	V _{CB} =30V, I _E =0	-	-	0.1	μA
Emitter Cut - off Current	I _{EBO}	V _{EB} =5V, I _C =0	-	-	0.1	μA
DC Current Gain	h _{FE}	V _{CE} =5V, I _C =2mA	200	-	475	
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C =100mA, I _b =5mA	-	-	0.65	V
Transition Frequency	f _T	V _{CE} =5V, I _C =10mA	100	-	-	MHz
Collector Output Capacitance	C _{ob}	V _{CB} =10V, I _e =0, f=1MHz	-	-	4.5	pF
Noise Figure	NF	V _{ce} =5V, I _c =0.2mA, f=1kHz, R _s =2kΩ	-	-	10	dB

Q₂ ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT.
Collector Cut - off Current	I _{CBO}	V _{CB} = - 30V, I _E =0	-	-	- 0.1	μA
Emitter Cut - off Current	I _{EBO}	V _{EB} = - 5V, I _C =0	-	-	- 0.1	μA
DC Current Gain	h _{FE}	V _{CE} = - 5V, I _C = - 2mA	200	-	475	
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	I _C = - 100mA, I _b = - 5mA	-	-	- 0.65	V
Transition Frequency	f _T	V _{CE} = - 5V, I _C = - 10mA	100	-	-	MHz
Collector Output Capacitance	C _{ob}	V _{CB} = - 10V, I _e =0, f=1MHz	-	-	4.5	pF
Noise Figure	NF	V _{ce} = - 5V, I _c = - 0.2mA, f=1kHz, R _s =2kΩ	-	-	10	dB

TYPICAL NPN CHARACTERISTICS – Q1

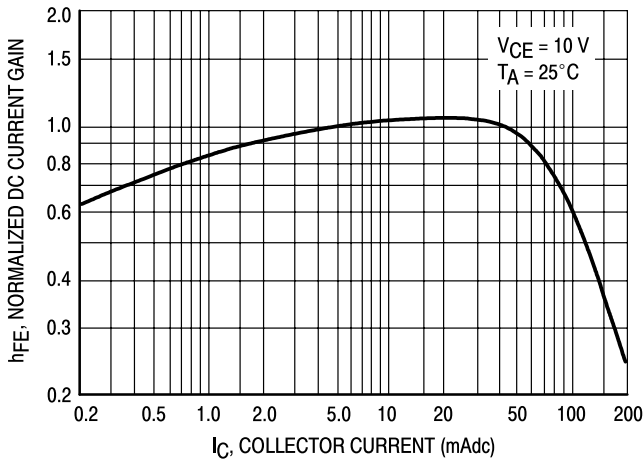


Figure 13. Normalized DC Current Gain

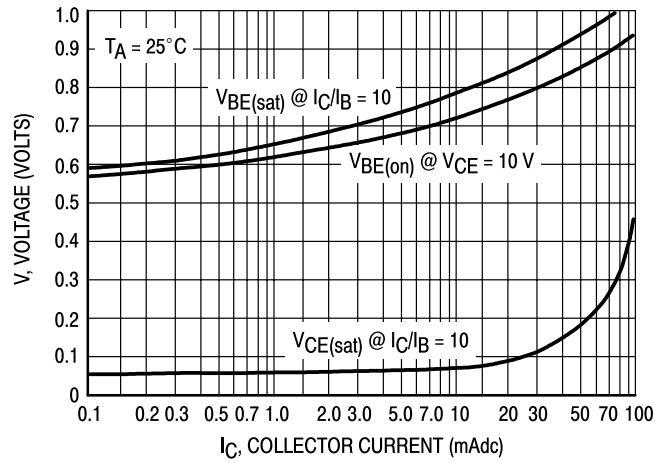


Figure 14. "Saturation" and "On" Voltages

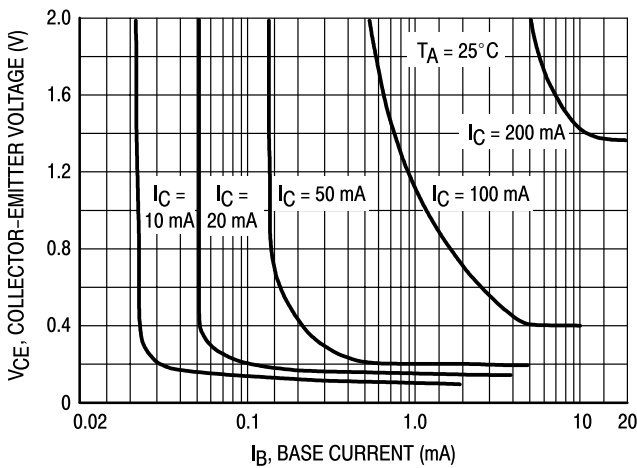


Figure 15. Collector Saturation Region

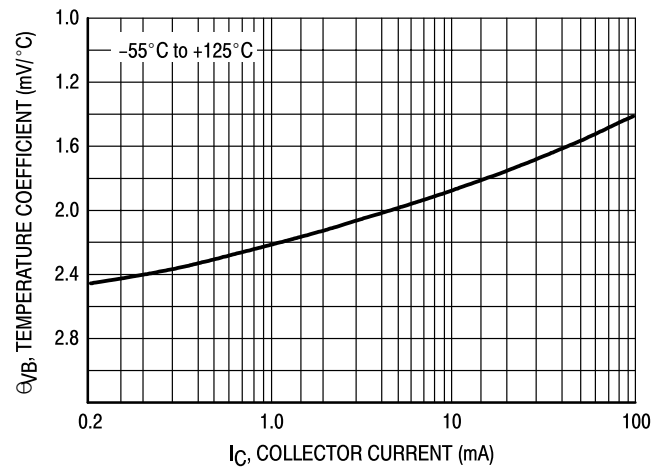


Figure 16. Base-Emitter Temperature Coefficient

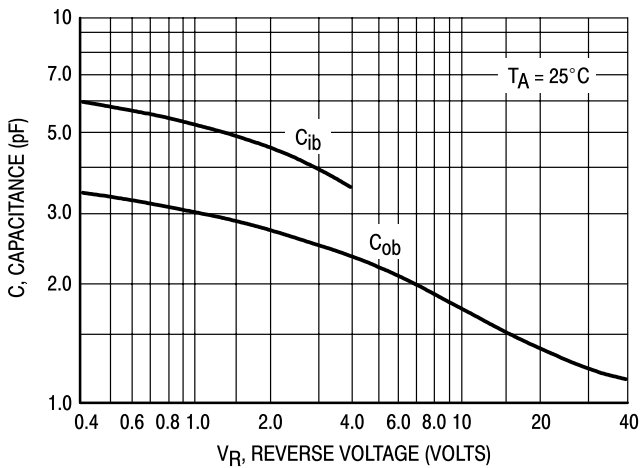


Figure 17. Capacitances

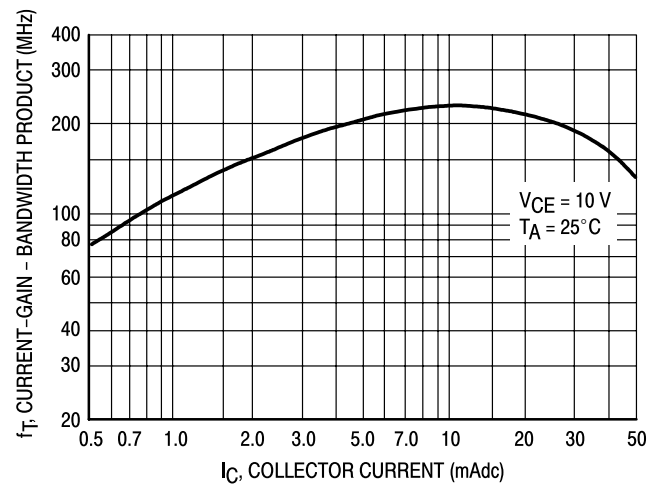


Figure 18. Current-Gain – Bandwidth Product

TYPICAL PNP CHARACTERISTICS — Q2

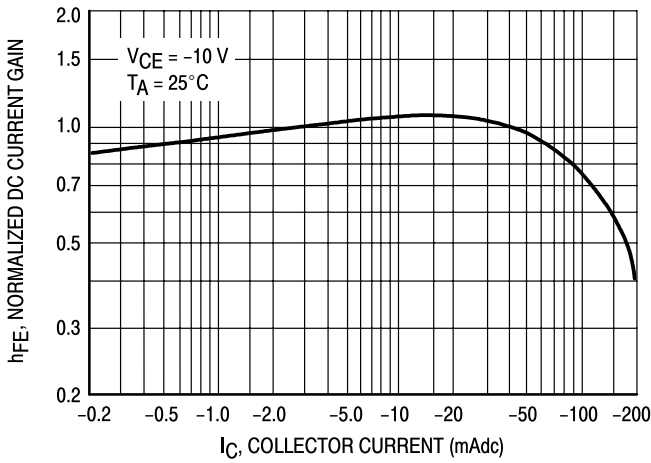


Figure 19. Normalized DC Current Gain

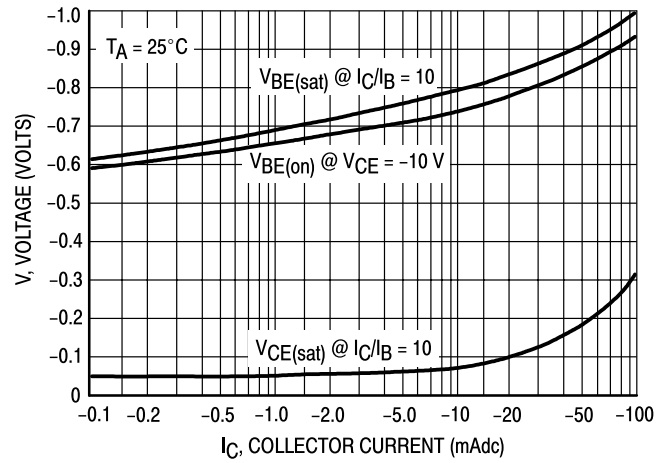


Figure 20. "Saturation" and "On" Voltages

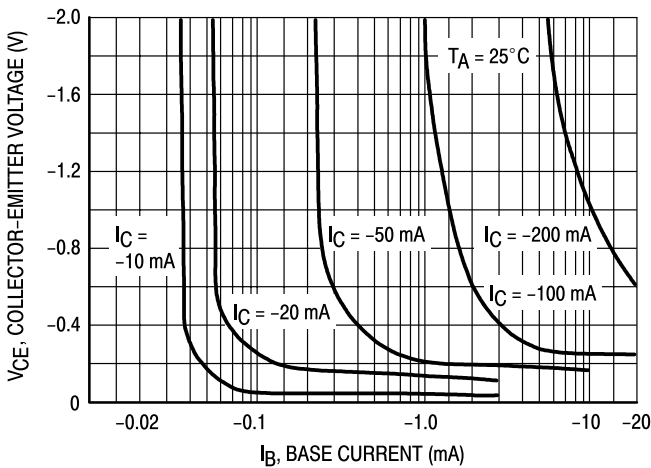


Figure 21. Collector Saturation Region

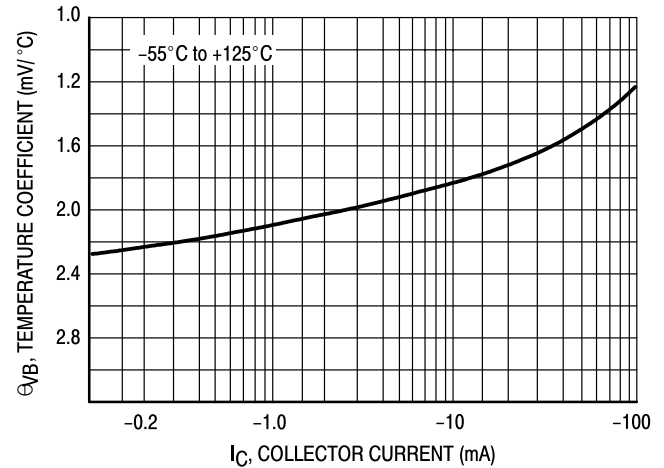


Figure 22. Base-Emitter Temperature Coefficient

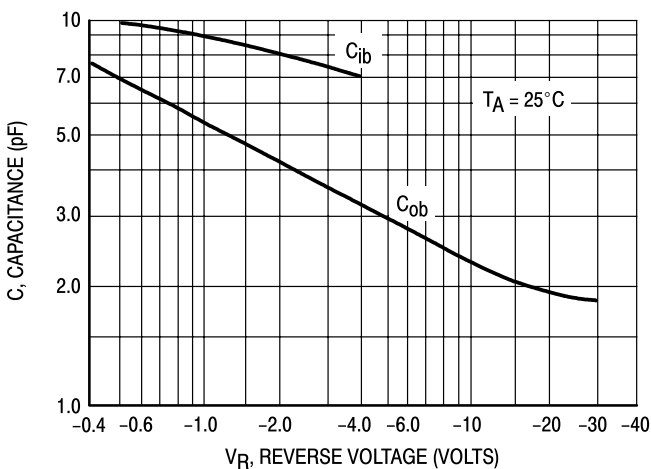


Figure 23. Capacitances

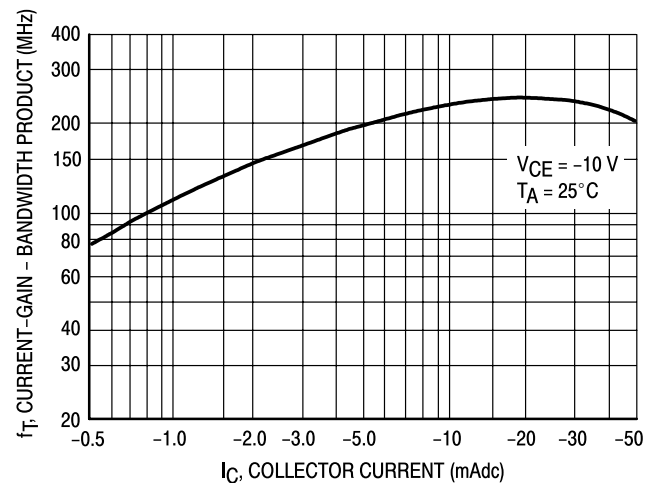


Figure 24. Current-Gain - Bandwidth Product

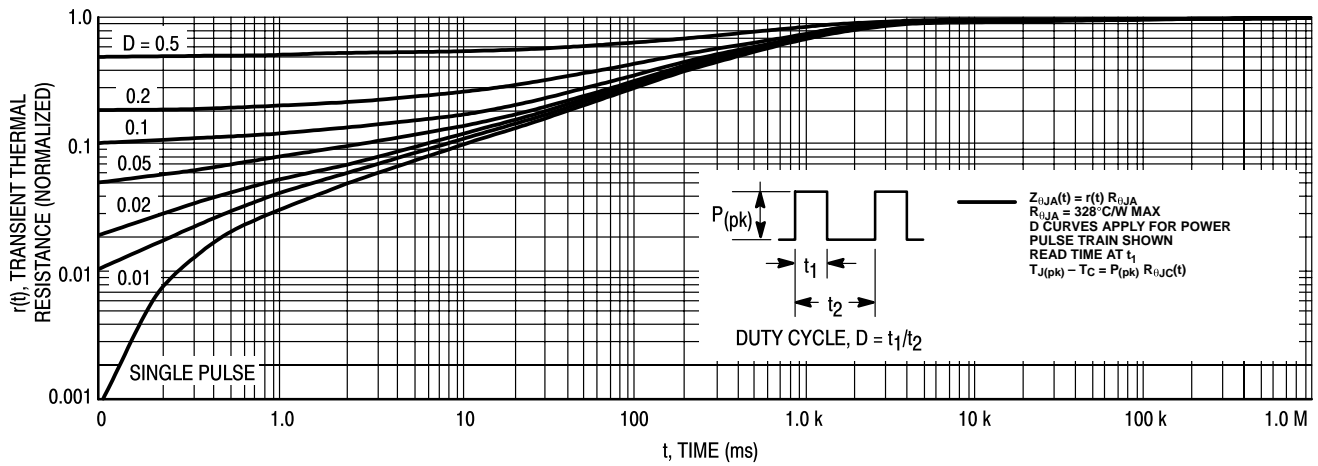
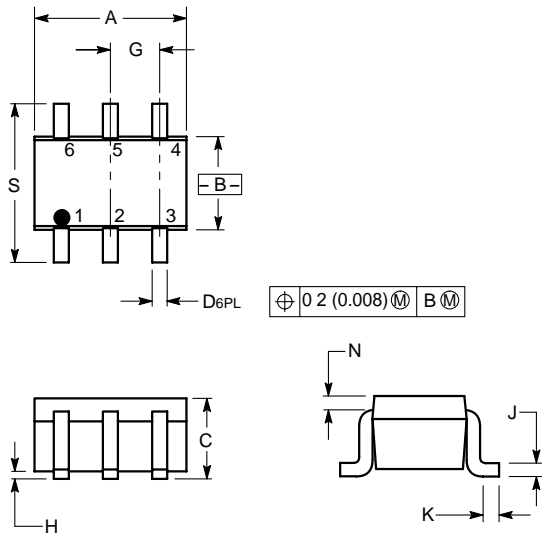


Figure 25. Thermal Response

SC-88/SOT-363



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.031	0.043	0.80	1.10
D	0.004	0.012	0.10	0.30
G	0.026 BSC		0.65 BSC	
H	---	0.004	---	0.10
J	0.004	0.010	0.10	0.25
K	0.004	0.012	0.10	0.30
N	0.008 REF		0.20 REF	
S	0.079	0.087	2.00	2.20

- PIN 1. EMITTER 2
 2. BASE 2
 3. COLLECTOR 1
 4. EMITTER 1
 5. BASE 1
 6. COLLECTOR 2

