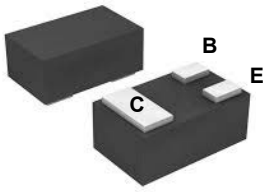
GOOD-ARK
SEMICONDUCTOR

GSTR2060
PNP Transistor

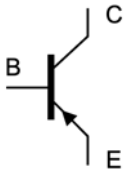
Features

- Complementary to GSTR2040
- Epoxy meets UL 94V-0 flammability rating
- For switching and amplifier applications
- Rugged and reliable

RoHS
COMPLIANT



SOT-883



Schematic Diagram

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

Parameter	Symbol	Value	Units
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Continuous Collector Current	I_C	-200	mA
Power Dissipation	P_D	100	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	1250	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C

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

Parameter	Symbol	Test Conditions	Min	Max	Units
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=-10uA, I_E=0	-40	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=-1mA, I_B=0	-40	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=-10uA, I_C=0	-5	-	V
Collector Cut-Off Current	I_{CEX}	V_{CE}=-30V, $V_{BE(OFF)}$=-3V	-	-50	nA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=-5V, I_C=0	-	-100	nA
DC Current Gain	$h_{FE(1)}$	V_{CE}=-1V, I_C=-0.1mA	60	-	-
	$h_{FE(2)}$	V_{CE}=-1V, I_C=-1mA	80	-	
	$h_{FE(3)}$	V_{CE}=-1V, I_C=-10mA	100	300	
	$h_{FE(4)}$	V_{CE}=-1V, I_C=-50mA	60	-	
	$h_{FE(5)}$	V_{CE}=-1V, I_C=-100mA	30	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-10mA, I_B=-1mA	-	-0.25	V
		I_C=-50mA, I_B=-5mA	-	-0.4	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=-10mA, I_B=-1mA	-0.65	-0.85	V
		I_C=-50mA, I_B=-5mA	-	-0.95	V
Transition Frequency	f_T	V_{CE}=-20V, I_C=-10mA, f=100MHz	250	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=-5V, I_E=0, f=1MHz	-	4.5	pF
Base Input Capacitance	C_{ib}	V_{EB}=-0.5V, I_E=0, f=1MHz	-	10	pF
Noise Figure	NF	V_{CE}=-5V, I_E=-0.1mA, f=1kHz, R_G=1kΩ	-	4	dB
Delay Time	t_d	V_{CC}=-3V, $V_{BE(OFF)}$=0.5V, I_C=-10mA, I_{B1}=-1mA	-	35	nS
Rise Time	t_r		-	35	nS
Storage Time	t_s	V_{CC}=-3V, I_C=-10mA, I_{B1}=I_{B2}=-1mA	-	225	nS
Fall Time	t_f		-	75	nS

Typical Electrical and Thermal Characteristic Curves

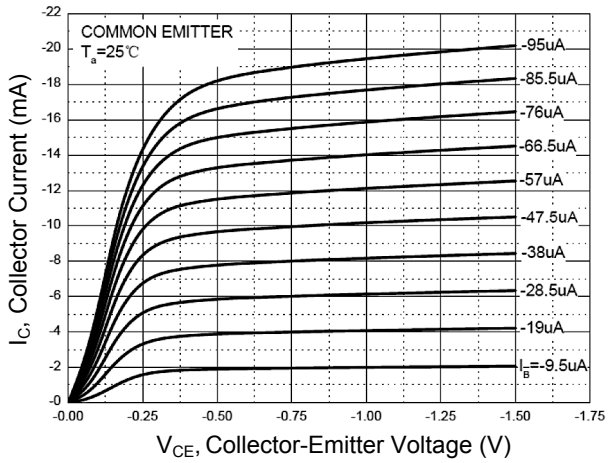


Figure 1. Static Characteristic

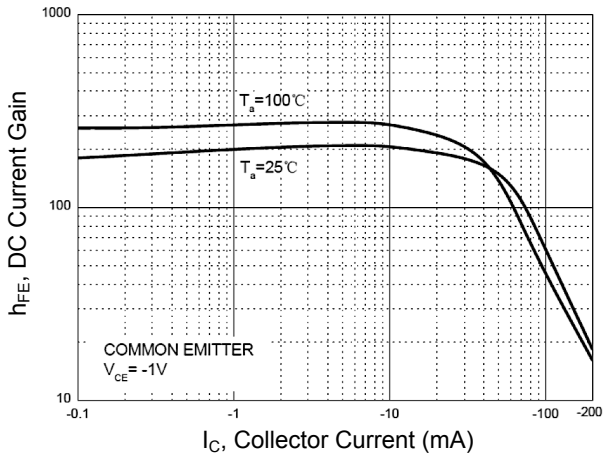


Figure 2. DC Current Gain vs. Collector Current

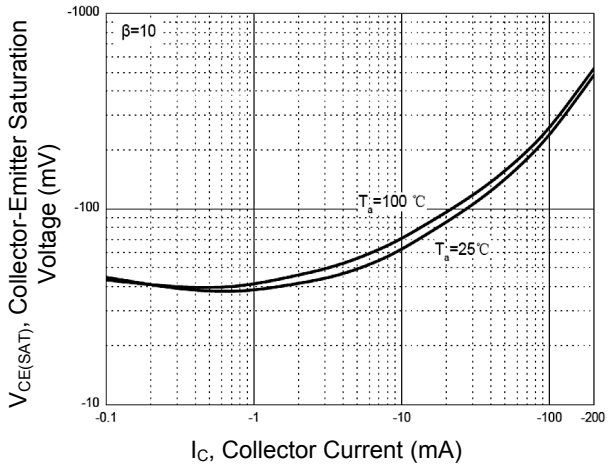


Figure 3. Collector-Emitter Saturation Voltage vs. Collector Current

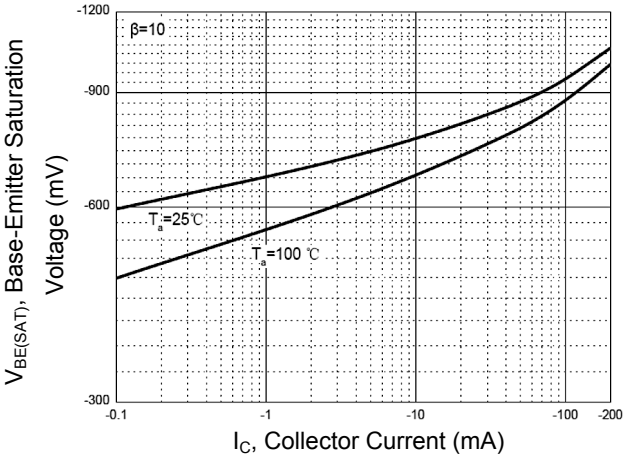


Figure 4. Base-Emitter Saturation Voltage vs. Collector Current

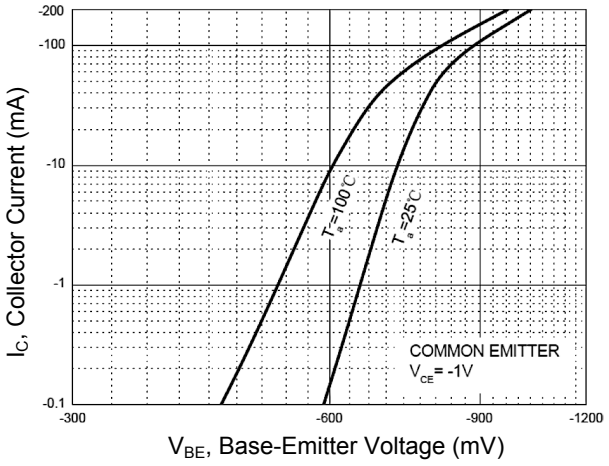


Figure 5. Collector Current vs. Base-Emitter Voltage

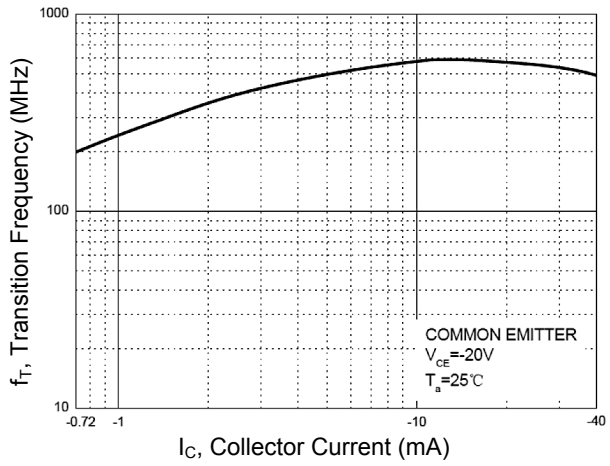


Figure 6. Transition Frequency vs. Collector Current

Typical Electrical and Thermal Characteristic Curves

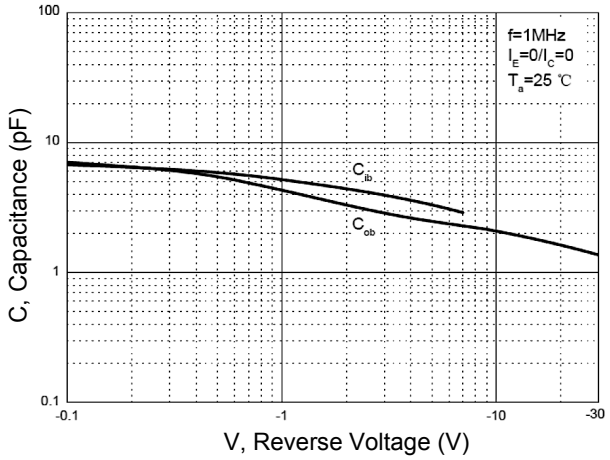


Figure 7. Capacitance Characteristics

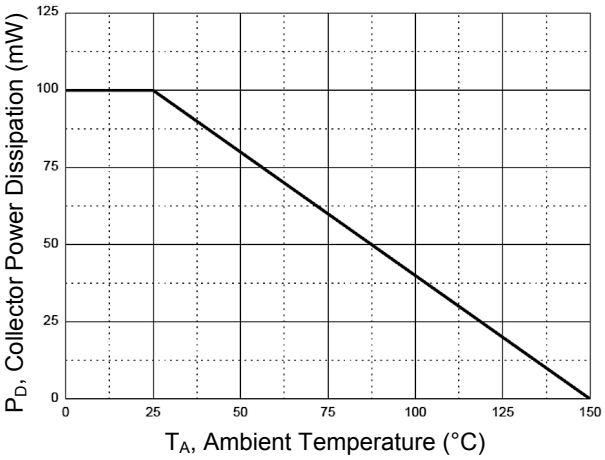
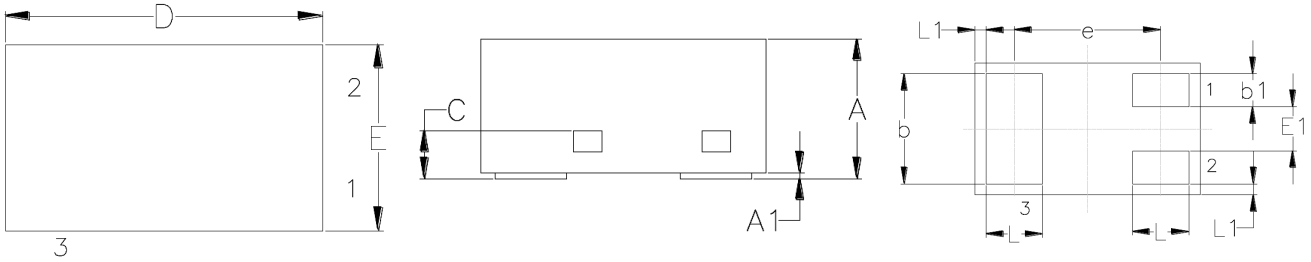


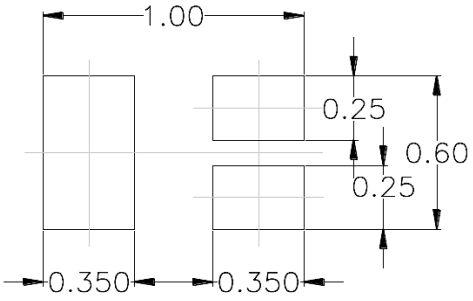
Figure 8. Power Derating Curve

Package Outline Dimensions (SOT-883)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.45	0.55	0.018	0.022
A1	0.00	0.05	0.000	0.002
b	0.45	0.55	0.018	0.022
b1	0.10	0.20	0.004	0.008
C	0.12	0.18	0.005	0.007
D	0.95	1.05	0.037	0.041
E	0.55	0.65	0.022	0.026
E1	0.15	0.25	0.006	0.010
e	0.65 BSC		0.026 BSC	
L	0.20	0.30	0.008	0.012
L1	0.05 REF		0.002 REF	

Recommended Pad Layout



Note:
1. Controlling dimension: in millimeters.
2. General tolerance: ±0.05mm.
3. The pad layout is for reference purposes only.

Order Information

Device	Package	Marking	Packaging	SPQ
GSTR2060	SOT-883	3N	Tape & Reel	10,000 Pcs / Reel