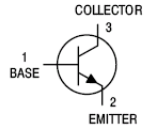
NPN Silicon Epitaxial Planar Transistor

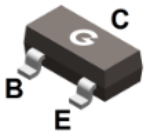
2SC2383

Features

HF

- Large continuous collector current capability
- Recommended for vertical deflection output & sound output applications for line-operated TVs
- RoHS compliant with Halogen-free





SOT-23

Mechanical Data

- Case: SOT-23
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
2SC2383-R	SOT-23	3000 pcs / Tape & Reel	HR
2SC2383-O	SOT-23	3000 pcs / Tape & Reel	HO
2SC2383-Y	SOT-23	3000 pcs / Tape & Reel	HY

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	160	V
Collector-Emitter Breakdown Voltage	V_{CEO}	160	V
Emitter-Base Breakdown Voltage	V_{EBO}	6	V
Continuous Collector Current	I_C	1	A
Peak Collector Current (t_p ≤1ms)	I_{CM}	2	A
Base Current	I_B	0.5	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (T_A = 25°C) *1	P_D	0.4	W
Power Dissipation (T_C = 25°C) *1		0.9	W
Thermal Resistance Junction-to-Air *1	$R_{\theta JA}$	315	°C/W
Thermal Resistance Junction-to-Case *1	$R_{\theta JC}$	135	°C/W
Thermal Resistance Junction-to-Lead *1	$R_{\theta JL}$	142	°C/W
Junction Temperature	T_J	-55 ~ +150	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Note1: The data tested by surface mounted on a 15mm * 15mm * 1mm FR4-epoxy P.C.B

Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 100μA, I_E = 0	160	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 10mA, I_B = 0	160	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 100μA, I_C = 0	6	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB} = 150V, I_E = 0	-	-	1.0	μA
Emitter Cut-off Current	I_{EBO}	V_{EB} = 6V, I_C = 0	-	-	1.0	μA
DC Current Gain	h_{FE}	V_{CE} = 5V, I_C = 200mA	60	-	320	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 500mA, I_B = 50mA	-	-	1.5	V
Base-Emitter Voltage	$V_{BE(on)}$	I_C = 5mA, V_{CE} = 5V	0.45	-	0.75	V
Transition Frequency	f_T	V_{CE} = 5V, I_C = 200mA	20	100	-	MHz
Output Capacitance	C_{ob}	V_{CB} = 10V, f = 1MHz, I_E = 0	-	-	20	pF

CLASSIFICATION OF h_{FE}

Rank	R	O	Y
Range	60-120	100-200	160-320

Ratings and Characteristic Curves (@ T_A = 25℃ unless otherwise specified)

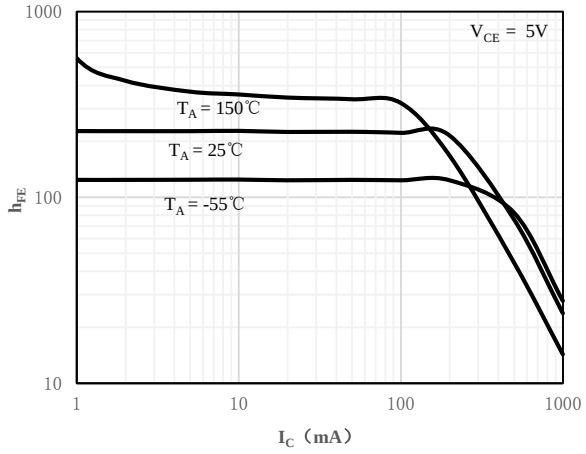


Fig 1 h_{FE} vs. I_C (Y: 160-320)

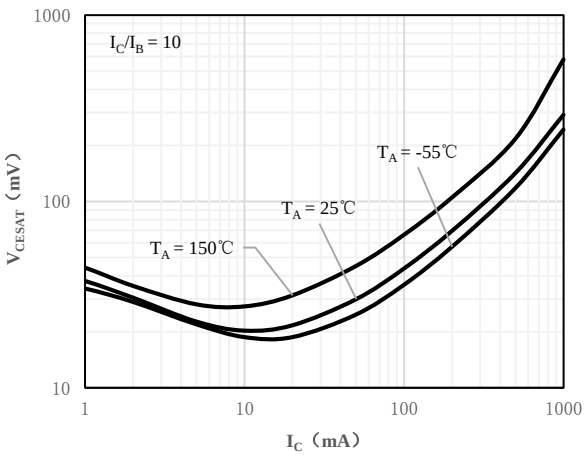


Fig 2 $V_{CE(sat)}$ vs. I_C

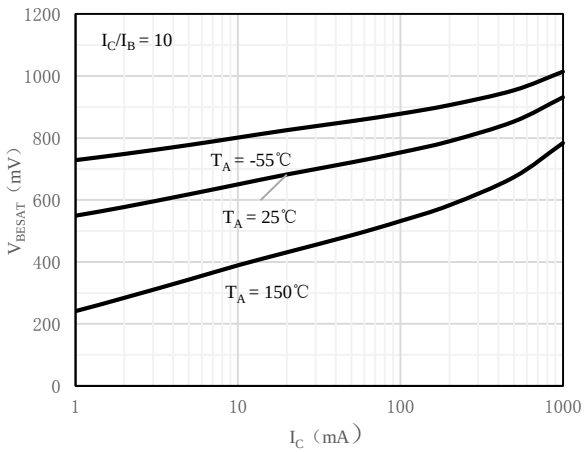


Fig 3 $V_{BE(sat)}$ vs. I_C

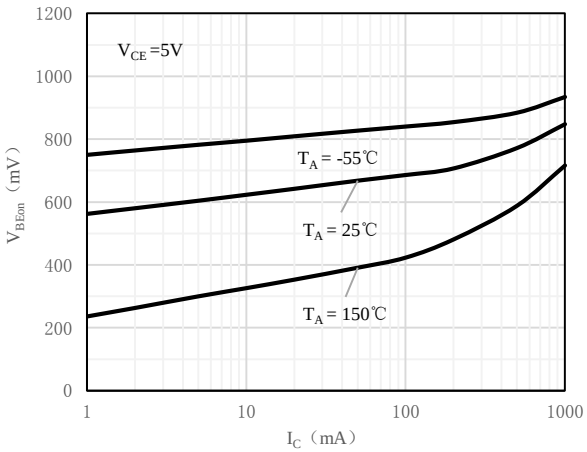


Fig 4 $V_{BE(ON)}$ vs. I_C

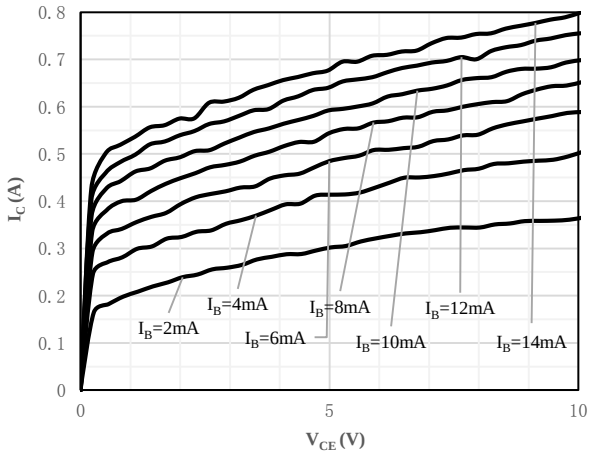


Fig 5 I_C vs. V_{CE}

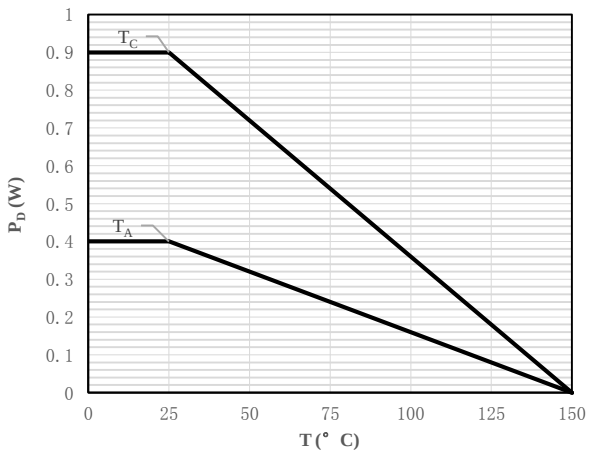


Fig 6 P_D vs. T_A

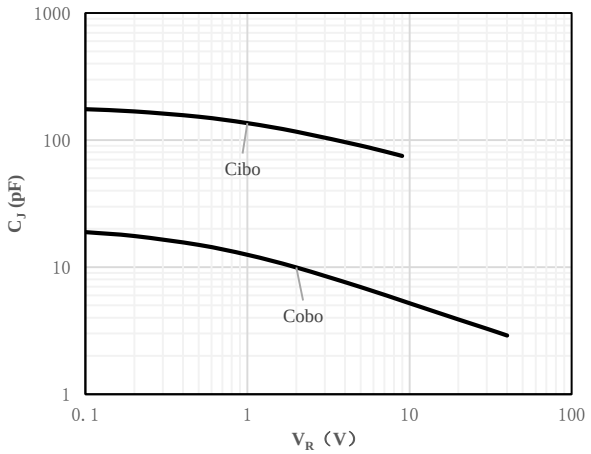
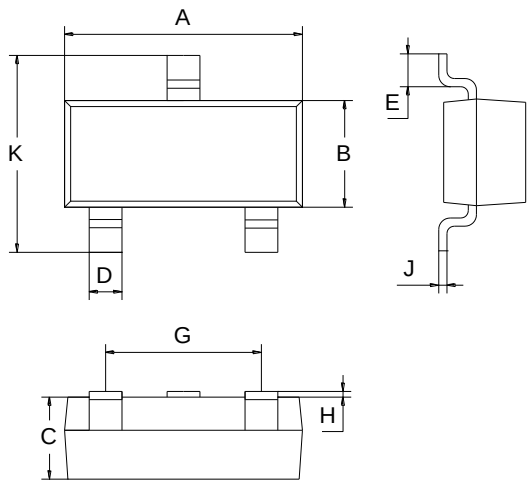


Fig 7 C_J vs. V_R

Package Outline Dimensions (Unit: mm)



SOT-23		
Dimension	**Min.**	**Max.**
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60

Package Outline Dimensions (Unit: mm)

SOT-23

