

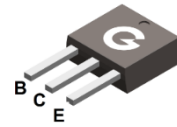
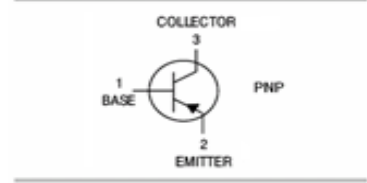
Features

- Fast switching speed
- Low collector-to-emitter saturation voltage
- Good linearity of h_{FE}
- Small and slim package facilitating compactness of sets
- RoHS compliant with Halogen-free

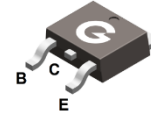
HF

Mechanical Data

- Case: TO-251, TO-252
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



TO-251



TO-252

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
2SB1216I-Q	TO-251	80 pcs / Tube	B1216
2SB1216I-R	TO-251	80 pcs / Tube	B1216
2SB1216I-S	TO-251	80 pcs / Tube	B1216
2SB1216I-T	TO-251	80 pcs / Tube	B1216
2SB1216-Q	TO-252	80 pcs / Tube or 2500 pcs / Tape & Reel	B1216
2SB1216-R	TO-252	80 pcs / Tube or 2500 pcs / Tape & Reel	B1216
2SB1216-S	TO-252	80 pcs / Tube or 2500 pcs / Tape & Reel	B1216
2SB1216-T	TO-252	80 pcs / Tube or 2500 pcs / Tape & Reel	B1216

Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	-120	V
Collector-Emitter Breakdown Voltage	V_{CEO}	-100	V
Emitter-Base Breakdown Voltage	V_{EBO}	-6	V
Collector Current (Continuous)	I_C	-4	A
Collector Current (Pulse)	I_{CM}	-8	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation($T_A = 25^\circ\text{C}$)	P_D	1	W
Junction Temperature	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

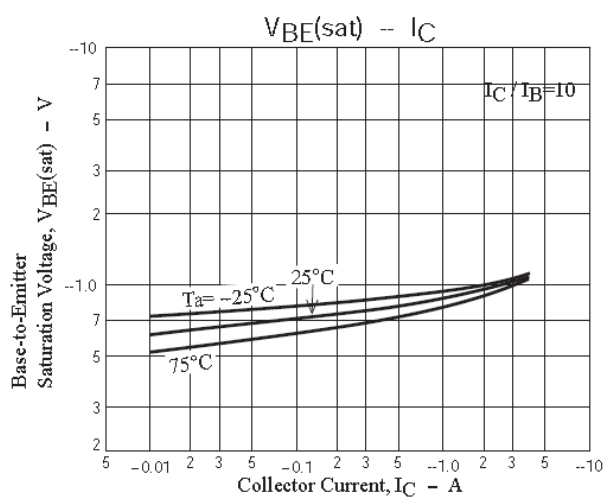
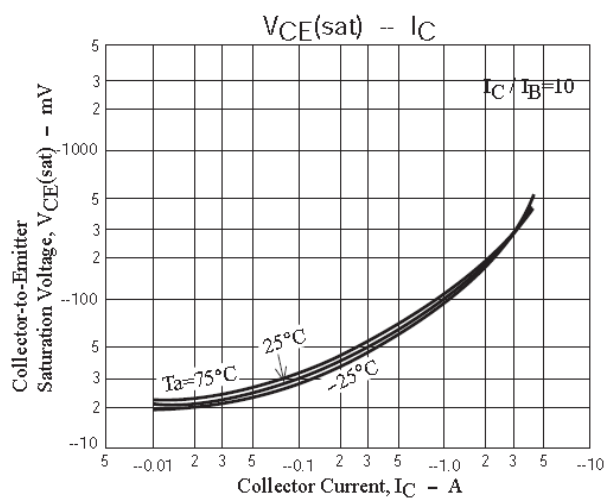
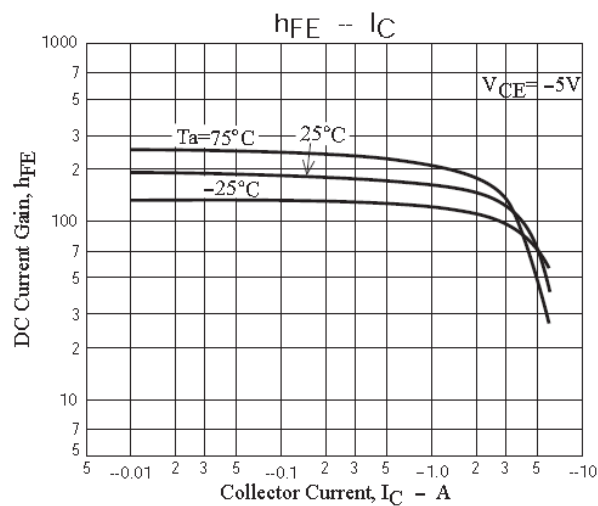
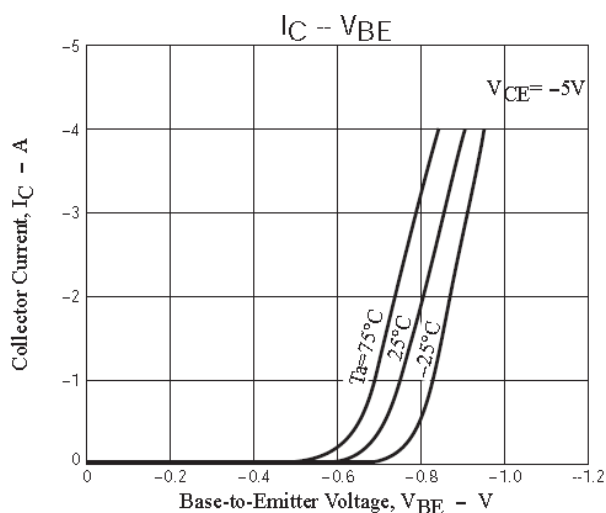
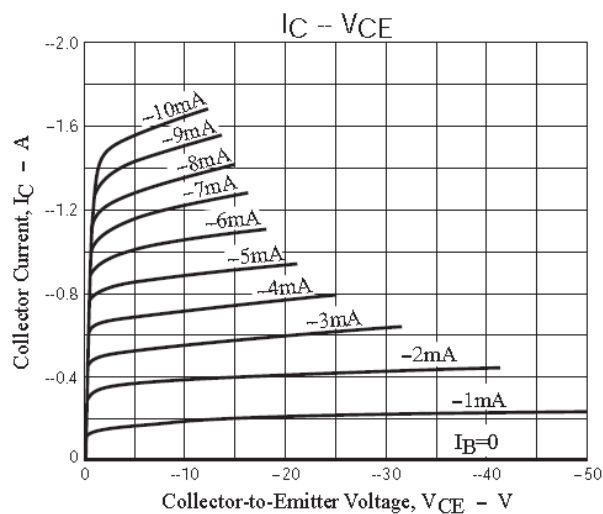
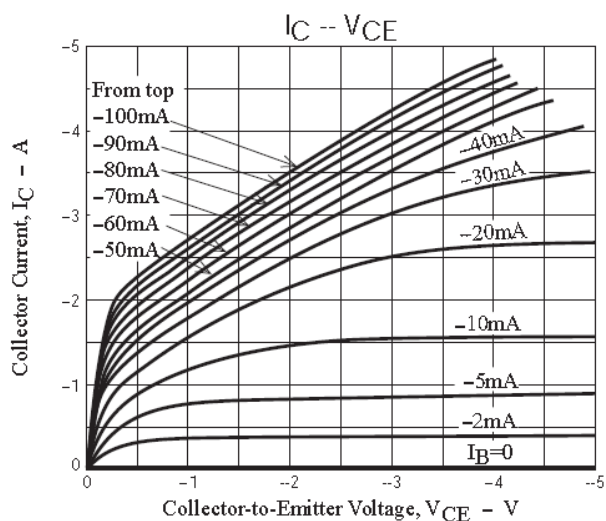
Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}, I_E = 0$	-120	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, I_B = 0$	-100	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-6	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -100\text{V}, I_E = 0$	-	-	-1	μA
Emitter Cut-off Current	I_{EBO}	$I_C = 0, V_{EB} = -4\text{V}$	-	-	-1	μA
DC Current Gain	h_{FE}	$V_{CE} = -5\text{V}, I_C = -0.5\text{A}$	70	-	400	-
		$V_{CE} = -5\text{V}, I_C = -3\text{A}$	40	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -2\text{A}, I_B = -0.2\text{A}$	-	-	-0.5	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -2\text{A}, I_B = -0.2\text{A}$	-	-	-1.2	V
Transition Frequency	f_T	$V_{CE} = -10\text{V}, I_E = -0.5\text{A}$	-	130	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10\text{V}, f = 1\text{MHz}$	-	65	-	pF

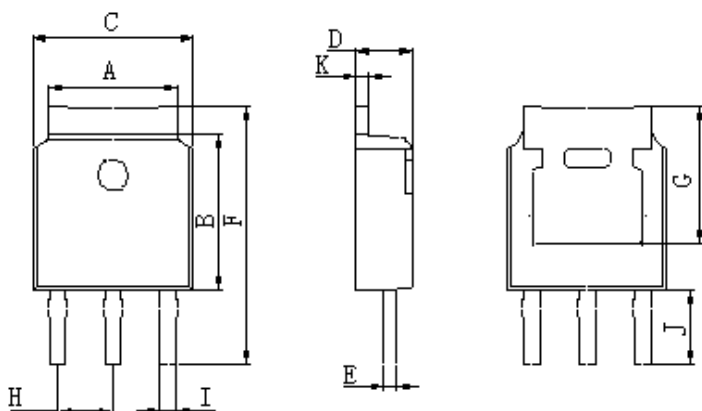
CLASSIFICATION HFE

Rank	Q	R	S	T
Range	70-140	100-200	140-280	200-400

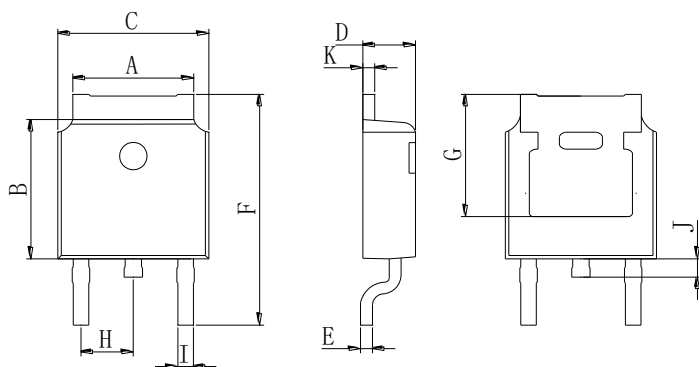
Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)



Package Outline Dimensions (Unit: mm)



TO-251		
Dimension	Min.	Max.
A	5.05	5.65
B	5.80	6.40
C	6.25	6.85
D	2.20	2.40
E	0.40	0.60
F	11.00	11.60
G	5.05	5.65
H	2.10	2.50
I	0.70	0.90
J	4.00	4.40
K	0.40	0.60



TO-252		
Dimension	Min.	Max.
A	5.05	5.65
B	5.80	6.40
C	6.25	6.85
D	2.20	2.40
E	0.40	0.60
F	9.71	10.31
G	5.05	5.65
H	2.10	2.50
I	0.70	0.90
J	0.50	0.70
K	0.40	0.60

Mounting Pad Layout (Unit: mm)

TO-252

