

NPN General Purpose Transistor

SST6838

Features

- 1) BV_{CEO} minimum is 40V ($I_C=1\text{mA}$)
- 2) Complements the SST6839.

Package, marking, and packaging specifications

Part No.	SST6838
Packaging type	SST3
Marking	RBR
Code	T116
Basic ordering unit (pieces)	3000

Absolute maximum ratings ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	50	V
Collector-emitter voltage	V_{CEO}	40	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_C	0.2	A
Collector power dissipation	P_C	0.2	W
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{stg}	$-55\sim+150$	$^\circ\text{C}$

Electrical characteristics ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	50	—	—	V	$I_C=10\text{ }\mu\text{A}$ ($T_a=-40^\circ\text{C}\sim+125^\circ\text{C}$)
Collector-emitter breakdown voltage	BV_{CEO}	40	—	—	V	$I_C=1\text{mA}$ ($T_a=-40^\circ\text{C}\sim+125^\circ\text{C}$)
Collector cutoff current	I_{CBO}	—	—	0.5	μA	$V_{CB}=30\text{V}$ ($T_a=85^\circ\text{C}$)
		—	—	5		$V_{CB}=30\text{V}$ ($T_a=125^\circ\text{C}$)
Emitter cutoff current	I_{EBO}	—	—	0.5	μA	$V_{EB}=4\text{V}$ ($T_a=85^\circ\text{C}$)
		—	—	5		$V_{EB}=4\text{V}$ ($T_a=125^\circ\text{C}$)
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	0.4	V	$I_C/I_E=50\text{mA}/5\text{mA}$ ($T_a=25^\circ\text{C}$)
		—	—	0.5		$I_C/I_E=10\text{mA}/0.2\text{mA}$ ($T_a=85^\circ\text{C}$)
		—	—	0.7		$I_C/I_E=10\text{mA}/0.2\text{mA}$ ($T_a=125^\circ\text{C}$)
		200	—	—		$V_{CE}/I_C=5\text{V}/1\text{mA}$ ($T_a=-40^\circ\text{C}\sim+25^\circ\text{C}$)
DC current transfer ratio	h_{FE1}	—	—	800	—	$V_{CE}/I_C=5\text{V}/1\text{mA}$ ($T_a=85^\circ\text{C}$)
		—	—	1000		$V_{CE}/I_C=5\text{V}/1\text{mA}$ ($T_a=125^\circ\text{C}$)
		150	—	—		$V_{CE}/I_C=10\text{V}/5\text{mA}$ ($T_a=-40^\circ\text{C}\sim+25^\circ\text{C}$)
Transition frequency	f_T	50	180	—	MHz	$V_{CE}=12\text{V}$, $I_C=2\text{mA}$, $f=100\text{MHz}$ ($T_a=25^\circ\text{C}$)
Collector output capacitance	C_{ob}	—	2	3.5	pF	$V_{CB}=12\text{V}$, $f=1\text{MHz}$ ($T_a=25^\circ\text{C}$)
Emitter input capacitance	C_{ib}	—	17	—	pF	$V_{EB}=0.5\text{V}$, $f=1\text{MHz}$ ($T_a=25^\circ\text{C}$)

Electrical characteristic curves

The electrical characteristic curves for these products are the same as those of UMT222A, SST222A, MMST222A, and PN222A. Refer to pages 621 and 623.

External dimensions (Units : mm)

