

# 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	$V_{CB0}$	50	V
Collector-emitter voltage	$V_{CE0}$	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	$BV_{CB0}$	50	—	—	V	$I_C=10\ \mu\text{A}$ ( $T_a=-40^\circ\text{C}\sim+125^\circ\text{C}$ )
Collector-emitter breakdown voltage	$BV_{CE0}$	40	—	—	V	$I_C=1\text{mA}$ ( $T_a=-40^\circ\text{C}\sim+125^\circ\text{C}$ )
Collector cutoff current	$I_{CB0}$	—	—	0.5	$\mu\text{A}$	$V_{CB}=30\text{V}$ ( $T_a=85^\circ\text{C}$ )
		—	—	5		$V_{CB}=30\text{V}$ ( $T_a=125^\circ\text{C}$ )
Emitter cutoff current	$I_{EB0}$	—	—	0.5	$\mu\text{A}$	$V_{EB}=4\text{V}$ ( $T_a=85^\circ\text{C}$ )
		—	—	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		$I_C/I_E=10\text{mA}/0.2\text{mA}$ ( $T_a=125^\circ\text{C}$ )
DC current transfer ratio	$h_{FE1}$	200	—	—	—	$V_{CE}/I_C=5\text{V}/1\text{mA}$ ( $T_a=-40^\circ\text{C}\sim+25^\circ\text{C}$ )
		—	—	800		$V_{CE}/I_C=5\text{V}/1\text{mA}$ ( $T_a=85^\circ\text{C}$ )
		—	—	1000		$V_{CE}/I_C=5\text{V}/1\text{mA}$ ( $T_a=125^\circ\text{C}$ )
DC current transfer ratio	$h_{FE2}$	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 PN2222A. Refer to pages 621 and 623.

### ●External dimensions (Units : mm)

