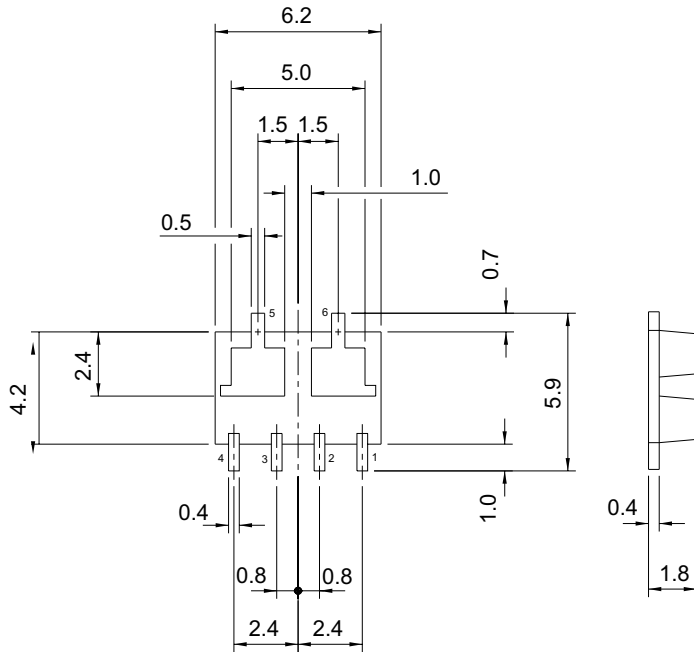


MECHANICAL DATA

Dimensions in mm



- 1: Base 1
- 2: Emitter 1
- 3: Emitter 2
- 4: Base 2
- 5: Collector 2
- 6: Collector 1

NPN EPITAXIAL PLANAR SILICON TRANSISTOR

Ideal For High current Switching Application

FEATURES

- **LOW $V_{CE(SAT)}$**
- **HIGH CURRENT CAPACITY**
- **FAST SWITCHING SPEED**

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

V_{CBO}	Collector – Base voltage	60V
V_{CEO}	Collector – Emitter voltage ($I_B = 0$)	20V
V_{EBO}	Emitter – Base voltage	6V
I_C	Collector current	5A
I_{CP}	Collector Current (Pulse)	8A
I_B		1A
P_C	Collector Dissipation (Mounted on Ceramic Board (750mm ² x 0.8mm))	1.5W
P_T	Total Dissipation (Mounted on Ceramic Board (750mm ² x 0.8mm))	2W
T_j	Junction Temperature	150°C
T_{stg}	Storage Temperature	-55 to 150°C

DYNAMICS CHARACTERISTICS ($T_{\text{case}} = 25^{\circ}\text{C}$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit.
$V_{(\text{BR})\text{CEO}}$	Collector – Emitter Base Breakdown Voltage $I_{\text{C}} = 1\text{mA}$ $R_{\text{BE}} = \infty$	20			V
$V_{(\text{BR})\text{CBO}}$	Collector – Base Breakdown Voltage $I_{\text{C}} = 10\mu\text{A}$ $I_{\text{E}} = 0$	60			V
$V_{(\text{BR})\text{EBO}}$	Emitter Base Breakdown Voltage $I_{\text{E}} = -10\mu\text{A}$ $I_{\text{C}} = 0$	6			V
I_{CBO}	Collector Cut-Off Current $V_{\text{CB}} = 50\text{V}$ $I_{\text{E}} = 0$			100	nA
I_{EBO}	Emitter Cut-Off Current $V_{\text{EB}} = 5\text{V}$ $I_{\text{C}} = 0$			100	
$h_{\text{FE}1^*}$	DC Current Gain $V_{\text{CE}} = 2\text{V}$ $I_{\text{C}} = 500\text{mA}$	160		560	—
$h_{\text{FE}2^*}$	DC Current Gain $V_{\text{CE}} = 2\text{V}$ $I_{\text{C}} = 3\text{A}$	95			
h_{FE}	DC Current Gain Ratio (small/large) $V_{\text{CE}} = 2\text{V}$ $I_{\text{C}} = 500\text{mA}$	0.8			
$V_{\text{CE}(\text{sat})}$	Collector – Emitter Saturation Voltage $I_{\text{C}} = 3\text{A}$ $I_{\text{B}} = 60\text{mA}$		220	500	mV
$V_{\text{BE}(\text{sat})}$	Base – Emitter Saturation Voltage $I_{\text{C}} = 3\text{A}$ $I_{\text{B}} = 60\text{mA}$		1	1.5	V
f_{T}	Gain Bandwidth Product $V_{\text{CE}} = 10\text{V}$ $I_{\text{C}} = 500\text{mA}$		220		MHz
C_{ob}	Output Capacitance $V_{\text{CB}} = 10\text{V}$ $f = 1\text{MHz}$		45	1	pF
t_{on}	Turn – On Time See specified test circuit		30		ns
t_{stg}	Storage Time See specified test circuit		300		
t_{f}	Fall Time See specified test circuit		40		

Switching Time Test Circuit
