

TO-92 Plastic-Encapsulate Transistors

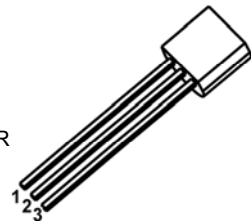
KSC5019 TRANSISTOR (NPN)

FEATURES

- LOW $V_{CE(sat)}$
- General Purpose Amplifier Transistor

TO – 92

- 1.EMITTER
- 2.COLLECTOR
- 3.BASE



MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	10	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	2	A
P_C	Collector Power Dissipation	750	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	166	$^{\circ}\text{C}/\text{W}$
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=0.1\text{mA}, I_E=0$	30			V
Collector-emitter breakdown	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	10			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=30\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=6\text{V}, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=1\text{V}, I_C=500\text{mA}$	140		600	
	$h_{FE(2)}$	$V_{CE}=1\text{V}, I_C=2\text{A}$	70			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=2\text{A}, I_B=50\text{mA}$			0.5	V
Base-emitter voltage	V_{BE}	$V_{CE}=1\text{V}, I_C=500\text{mA}$			1.5	V
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		27		pF
Transition frequency	f_T	$V_{CE}=1\text{V}, I_C=500\text{mA}$		150		MHz

CLASSIFICATION OF $h_{FE(1)}$

RANK	L	M	N	P
RANGE	140-240	200-330	300-450	420-600