

KSC5321

NPN TRIPLE DIFFUSED PLANAR SILICON TRANSISTOR

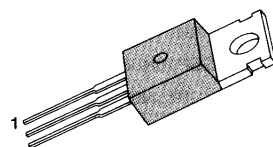
HIGH VOLTAGE AND HIGH RELIABILITY

- High speed Switching
- Wide Safe Operating Area

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector Base Voltage	V_{CBO}	800	V
Collector Emitter Voltage	V_{CEO}	500	V
Emitter Base Voltage	V_{EBO}	7	V
Collector Current	DC	I_C	A
	Pulse*	I_{CP}	
Base Current	DC	I_B	A
	Pulse*	I_{BP}	
Collector Dissipation ($T_C=25^\circ\text{C}$)	P_C	100	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ 150	$^\circ\text{C}$

TO-220



1.Base 2.Collector 3.Emitter

* Pulse Test : Pulse Width = 5ms, Duty Cycle $\leq 10\%$

ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Base Breakdown Voltage	BV_{CBO}	$I_C = 1\text{mA}, I_E = 0$	800	-	-	V
Collector Emitter Breakdown Voltage	BV_{CEO}	$I_C = 5\text{mA}, I_B = 0$	500	-	-	V
Emitter Base Breakdown Voltage	BV_{EBO}	$I_C = 1\text{mA}, I_C = 0$	7	-	-	V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 800\text{V}, I_E = 0$	-	-	10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 7\text{V}, I_C = 0$	-	-	10	μA
DC Current Gain	h_{FE}	$V_{CE} = 5\text{V}, I_C = 0.6\text{A}$	15	-	40	-
	h_{FE}	$V_{CE} = 5\text{V}, I_C = 3\text{A}$	8	-	-	
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 3\text{A}, I_B = 0.6\text{A}$	-	-	1.0	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 3\text{A}, I_B = 0.6\text{A}$	-	-	1.5	V
Current Gain bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_E = 0.6\text{A}, f = 1\text{MHz}$	-	14	-	MHz
Output Capacitance	C_{OB}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	-	65	100	pF
Input Capacitance	C_{IB}	$V_{EB} = 7\text{V}, I_C = 0, f = 1\text{MHz}$	-	1400	2000	pF
Turn on Time	t_{ON}	$V_{CC} = 125\text{V},$ $I_C = 1\text{A}$ $I_{B1} = -I_{B2} = 0.2\text{A}$	-	-	0.5	μS
Storage Time	t_{STG}		-	-	6.5	
Falling Time	t_F		-	-	0.3	
Turn on Time	t_{ON}	$V_{CC} = 250\text{V},$ $I_C = 4\text{A}$ $I_{B1} = 0.8\text{A}, I_{B2} = 1.6\text{A}$	-	-	0.5	μS
Storage Time	t_{STG}		-	-	3.0	
Falling Time	t_F		-	-	0.3	

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THERMAL CHARACTERISTICS

Characteristic		Symbol	Max	Unit
Thermal Resistance	Junction to Case	$R_{\theta \text{ j-C}}$	1.25	$^{\circ}\text{C/w}$
	Junction to Ambient	$R_{\theta \text{ j-a}}$	62.5	



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