

KSC5027

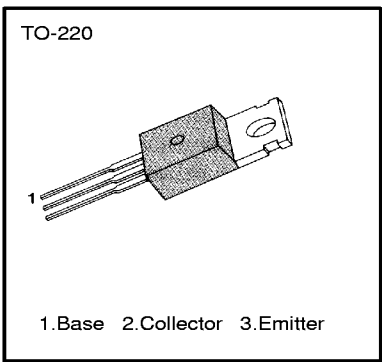
NPN SILICON TRANSISTOR

HIGH VOLTAGE AND HIGH RELIABILITY

- HIGH SPEED SWITCHING
- WIDE SOA

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	1100	V
Collector-Emitter Voltage	V_{CEO}	800	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current (DC)	I_C	3	A
Collector Current (Pulse)	I_C	10	A
Base Current	I_B	1.5	A
Collector Dissipation ($T_C=25^{\circ}C$)	P_C	50	W
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 ~ 150	$^{\circ}C$



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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Base Breakdown Voltage	BV_{CBO}	$I_C = 1mA, I_E = 0$	1100			V
Collector Emitter Breakdown Voltage	BV_{CEO}	$I_C = 5mA, R_{BE} = \infty$	800			V
Emitter Base Breakdown Voltage	BV_{EBO}	$I_E = 1mA, I_C = 0$	7			V
Collector Emitter Sustaining Voltage	$V_{CEX(sus)}$	$I_C = 1.5A, I_{B1} = -I_{B2} = 0.3A$ $L = 2mH, \text{Clamped}$	800			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 800V, I_E = 0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 5V, I_C = 0$			10	μA
DC Current Gain	h_{FE1}	$V_{CE} = 5V, I_C = 0.2A$	10		40	
	h_{FE2}	$V_{CE} = 5V, I_C = 1A$	8			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1.5A, I_B = 0.3A$			2	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 1.5A, I_B = 0.3A$			1.5	V
Output Capacitance	C_{OB}	$V_{CB} = 10V, I_E = 0, f = 1MHz$		60		pF
Current Gain Bandwidth Product	f_T	$V_{CE} = 10V, I_C = 0.2A$		15		MHz
Turn On Time	t_{ON}	$V_{CC} = 400V$			0.5	μs
Storage Time	t_S	$5I_{B1} = -2.5I_{B2} = I_C = 2A$			3	μs
Fall Time	t_F	$R_L = 200\Omega$			0.3	μs

$h_{FE}(1)$ CLASSIFICATION

Classification	N	R	O
h_{FE1}	10 - 20	15 - 30	20 - 40