

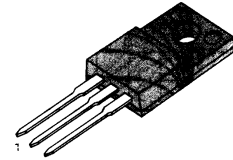
HIGH VOLTAGE POWER SWITCH SWITCHING APPLICATION

- High Speed Switching
- Wide SOA

ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	1000	V
Collector-Emitter Voltage	V_{CEO}	450	V
Emitter-Base Voltage	V_{EBO}	9	V
Collector Current (DC)	I_C	5	A
Collector Current (Pulse)	I_C	10	A
Base Current (DC)	I_B	2	A
Base Current (Pulse)	I_B	4	A
Collector Dissipation ($T_C=25^\circ\text{C}$)	P_C	40	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-65 ~ 150	$^\circ\text{C}$

TO-220F



1.Base 2.Collector 3. Emitter

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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Base Breakdown Voltage	BV_{CBO}	$I_C = 1\text{mA}, I_E = 0$	700			V
Collector Emitter Breakdown Voltage	BV_{CEO}	$I_C = 5\text{mA}, I_B = 0$	400			V
Emitter Base Breakdown Voltage	BV_{EBO}	$I_C = 1\text{mA}, I_E = 0$	9			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 800\text{V}, V_{BE} = 0$			10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 9\text{V}, I_C = 0$			10	μA
DC Current Gain	h_{FE1}	$V_{CE} = 5\text{V}, I_C = 0.5\text{A}$	15		30	
	h_{FE2}	$V_{CE} = 1\text{V}, I_C = 2\text{A}$	6			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 1\text{A}, I_B = 0.1\text{A}$		0.55	0.8	V
		$I_C = 2\text{A}, I_B = 0.4\text{A}$			0.5	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 1\text{A}, I_B = 0.1\text{A}$			1.1	V
		$I_C = 2\text{A}, I_B = 0.4\text{A}$			1.25	V
Output Capacitance	C_{OB}	$V_{CB} = 10\text{V}, f = 0.1\text{MHz}$		70		pF
Input Capacitance	C_{IB}	$V_{EB} = 8\text{V}, I_C = 0, f = 0.1\text{MHz}$		1000		pF
Current Gain Bandwidth Product	f_T	$V_{CE} = 10\text{V}, I_C = 0.1\text{A}$		14		MHz
Turn On Time	t_{ON}	$V_{CC} = 125\text{V}$			200	nS
Storage Time	t_{STG}	$I_C = 1\text{A}$			2	μS
Fall Time	t_F	$I_{B1} = 0.2\text{A}, I_{B2} = -0.2\text{A}$			500	nS

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

KSC5338F

NPN SILICON TRANSISTOR



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