

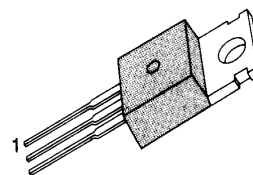
HIGH VOLTAGE HIGH SPEED POWER SWITCH APPLICATION

- Wide S.O.A.
- Built-in Free-wheel Diode
- Suitable for ballast Application
- Low Variable Storage-time spread

ABSOLUTE MAXIMUM RATING

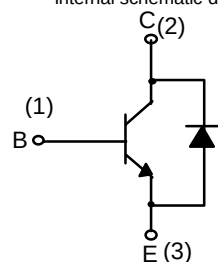
Characteristic	Symbol	Rating	Unit
Collector Base Voltage	V_{CBO}	1000	V
Collector Emitter Voltage	V_{CEO}	450	V
Emitter Base Voltage	V_{EBO}	9	V
Collector Current	DC I_C	5	A
	*Pulse I_{CP}	10	A
Base Current	DC I_B	2	A
	*Pulse I_{BP}	4	A
Power Dissipation($T_c=25^\circ\text{C}$)	P_C	75	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~ 150	$^\circ\text{C}$

TO-220



1.Base 2.Collector 3.Emitter

Internal schematic diagram

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

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Base Breakdown Voltage	BV_{CBO}	$I_C=1\text{mA}, I_E=0$	1000	-	-	V
Collector Emitter Breakdown Voltage	BV_{CEO}	$I_C=5\text{mA}, I_B=0$	450	-	-	V
Emitter Cutoff Current	BV_{EBO}	$I_E=1\text{mA}, I_C=0$	12	-	-	V
Collector Cutoff Current	I_{CBO}	$V_{CB}=800\text{V}, I_E=0$	-	-	10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=9\text{V}, I_C=0$	-	-	10	μA
DC Current Gain	h_{FE1}	$V_{CE}=1\text{V}, I_C=0.8\text{A}$	15	-	-	
	h_{FE2}	$V_{CE}=1\text{V}, I_C=2\text{A}$	6	-	-	
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=0.8\text{A}, I_B=0.08\text{A}$	-	-	0.5	V
		$I_C=2\text{A}, I_B=0.4\text{A}$	-	-	0.75	V
Base Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=0.8\text{A}, I_B=0.08\text{A}$	-	-	1.0	V
		$I_C=2\text{A}, I_B=0.4\text{A}$	-	-	1.0	V
Output Capacitance	C_{OB}	$V_{CB}=10\text{V}, f=1\text{MHz}$	-	-	100	pF
Turn-on time	t_{ON}	$V_{CC}=250\text{V}$	-	500	750	ns
Storage-time	t_{STG}	$I_C=2.5\text{A}, I_{B1}=0.5\text{A}$	-	1	2	μs
Falling time	t_F	$I_{B2}=-1\text{A}$	-	0.1	0.2	μs
Storage-time	t_{STG}	$V_{CC}=15\text{V}, V_Z=300\text{V}$	-	2.1	2.4	μs
Falling time	t_F	$I_C=2\text{A}, I_{B1}=400\text{mA}$ $I_{B2}=-400\text{mA}$ $L_C=200\mu\text{H}$	-	95	150	ns
Diode Forward Voltage	V_F	$I_F=1\text{A}$	-	-	1.5	V
		$I_F=2\text{A}$	-	-	1.7	V
Reverse recovery time* ($di/dt = 10\text{A}/\mu\text{s}$)	t_{rr}	$I_F=0.4\text{A}$	-	800	-	ns
		$I_F=1\text{A}$	-	1.6	-	μs
		$I_F=2\text{A}$	-	1.8	-	μs

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

THERMAL CHARACTERISTICS

Characteristics		Symbol	Rating	Unit
Thermal Resistance	Junction to Case	$R_{\theta \text{ j-c}}$	1.65	$^{\circ}\text{C/W}$
	Junction to Ambient	$R_{\theta \text{ j-a}}$	62.5	

