



PRODUCT SPECIFICATIONS

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TYPE: MJH16212

CASE OUTLINE: TO-218

NPN SILICON HIGH VOLTAGE POWER TRANSISTOR

ABSOLUTE MAXIMUM RATING:

Collector to Base Voltage	BV_{CBO}		Vdc
Collector to Emitter Voltage	BV_{CEV}	1500	Vdc
Emitter to Base	BV_{EBO}	8.0	Vdc
Collector to Emitter	$BV_{CEO(sus)}$	650	Vdc
Continuous Collector Current	I_C	10	Adc
Peak Collector Current	I_{CM}	15	Adc
Power Dissipation $T_A = 25^\circ C$	P_D	150	Watts
Power Dissipation $T_C = 25^\circ C$	P_D		Watts
Storage Temperature	T_{stg}	-55 to +125	$^\circ C$
Operating Temperature	T_J	-55 to +125	$^\circ C$
Lead Temperature From Case	T_L	275	$^\circ C$

ELECTRICAL CHARACTERISTICS $T_A @ 25^\circ C$

PARAMETERS	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector to Base Voltage	BV_{CBO}					Vdc
Emitter to Base Voltage	BV_{EBO}	$I_E = 1.0mA$	8.0			Vdc
Collector to Emitter Voltage	$BV_{CEO(sus)}$	$I_C = 10mA$ $I_B = 0$	650			Vdc
Collector to Emitter Voltage	BV_{CEO}					Vdc
Collector to Emitter Voltage	BV_{CEV}					Vdc
Collector Cutoff Current	I_{CBO}					mA
Collector Cutoff Current	I_{CBO}					mA
Collector Cutoff Current	I_{CES}	$V_{CE} = 1500V$ $V_{BE} = 0$			250	μA
Collector Cutoff Current	I_{CES}	$V_{CE} = 1200V$ $V_{BE} = 0$			25	μA
Collector Cutoff Current	I_{CEV}					mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 8.0V$			25	μA
D.C. Current Gain Pulsed*	h_{FE}	$I_C = 1.0A$ $V_{CE} = 5.0V$		24		-
D.C. Current Gain Pulsed*	h_{FE}	$I_C = 10A$ $V_{CE} = 5.0V$	4.0	6.0	10	-
D.C. Current Gain Pulsed*	h_{FE}					-
D.C. Current Gain Pulsed*	h_{FE}					-
D.C. Current Gain Pulsed*	h_{FE}					-
Saturation Voltage*	$V_{CE(sat)}$	$I_C = 5.5A$ $I_B = 2.2A$			1.0	Vdc
Saturation Voltage*	$V_{CE(sat)}$	$I_C = 3.0A$ $I_B = 400mA$			1.0	Vdc
Saturation Voltage*	$V_{CE(sat)}$					Vdc
Base Emitter Voltage*	$V_{BE(sat)}$	$I_C = 5.5A$ $I_B = 2.2A$			1.5	Vdc
Base Emitter Voltage*	$V_{BE(sat)}$					Vdc
Base Emitter Voltage*	$V_{BE(sat)}$					Vdc
Base Emitter Voltage*	$V_{BE(on)}$					Vdc

Notes: *Pulse Width $\leq 300\mu sec$ 2% Duty Cycle



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SMALL SIGNAL CHARACTERISTICS

	SYMBOL	MIN	TYP	MAX	UNITS
Current Gain at F =	h_{fe}				-
Input Capacitance	C_{ib}				pf
Output Capacitance $V_{CE} = 10V$ $I_E = 0$ $f_{test} = 100KHz$	C_{ob}			350	pf
Transition Frequency $I_C = 0.5A$ $V_{CE} = 10V$ $f_{test} = 1.0MHz$	f_T		2.75		MHz
Input Impedance					Ohms
Voltage Feedback Ratio					X10-4
Output Admittance					$\mu mhos$
Noise Figure	NF				dB

SWITCHING CHARACTERISTICS

Resistive Load							
			SYMBOL	MIN	TYP	MAX	UNITS
Turn-On Time			t _{on}				μs
Turn-Off Time			t _{off}				μs
Delay Time			t _d				μs
Rise Time			t _r				μs
Storage Time			t _s				μs
Fall Time			t _f				μs
Inductive Load					SYMBOL	MIN	TYP
Storage Time	I _C = 5.5A I _B = 2.2A		t _{sv}			4000	ns
Crossover Time			t _c				μs
Fall Time			t _{fi}			500	ns
Storage Time			t _{sv}				μs
Crossover Time			t _c				μs
Fall Time			t _{fi}				μs

FUNCTIONAL TEST

	SYMBOL	MIN	TYP	MAX	UNITS
Common-Emitter Amplifier Power Gain	GPE				dB
Power Output	Pout				Watt
Collector Efficiency	η				%
Power Output	Pout				Watt
Second Breakdown Collector Current	$I_{S/B}$				A
Thermal-Resistance, Junction to Case	$R_{\theta JC}$			0.67	$^{\circ}C/W$