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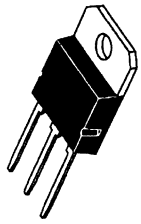
MJH6284 (NPN), MJH6287 (PNP)

Darlington Complementary Silicon Power Transistors
20 Ampere , 100Volts,160Watts

Similar to the Popular NPN 2N6284 and the PNP 2N6287
Rugged RBSOA Characteristics
Monolithic Construction with Built- in Collector – Emitter Diode



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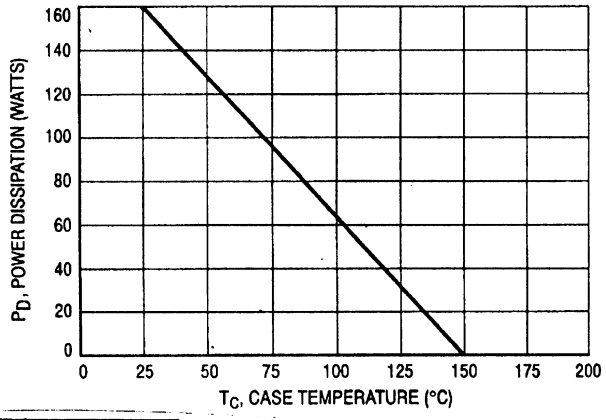
MAXIMUM RATINGS

Rating	Symbol	Max	Unit
Collector–Emitter Voltage	V_{CEO}	100	Vdc
Collector–Base Voltage	V_{CB}	100	Vdc
Emitter–Base Voltage	V_{EB}	5.0	Vdc
Collector Current – Continuous – Peak	I_C	20 40	Adc
Base Current	I_B	0.5	Adc
Total Device Dissipation @ T_C = 25°C Derate above 25°C	P_D	160 1.28	W W/°C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	–65 to +150	°C

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction–to–Case	$R_{\theta JC}$	0.78	°C/W

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.



Quality Semi-Conductors

ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector–Emitter Sustaining Voltage (I_C = 0.1 Adc, I_B = 0)	$V_{CEO(sus)}$	100	–	Vdc
Collector Cutoff Current (V_{CE} = 50 Vdc, I_B = 0)	I_{CEO}	–	1.0	mAdc
Collector Cutoff Current (V_{CE} = Rated V_{CB}, $V_{BE(off)}$ = 1.5 Vdc) (V_{CE} = Rated V_{CB}, $V_{BE(off)}$ = 1.5 Vdc, T_C = 150°C)	I_{CEX}	 – –	 0.5 5.0	mAdc
Emitter Cutoff Current (V_{BE} = 5.0 Vdc, I_C = 0)	I_{EBO}	–	2.0	mAdc
ON CHARACTERISTICS (Note 1)				
DC Current Gain (I_C = 10 Adc, V_{CE} = 3.0 Vdc) (I_C = 20 Adc, V_{CE} = 3.0 Vdc)	h_{FE}	 750 100	 18,000 –	–
Collector–Emitter Saturation Voltage (I_C = 10 Adc, I_B = 40 mAdc) (I_C = 20 Adc, I_B = 200 mAdc)	$V_{CE(sat)}$	 – –	 2.0 3.0	Vdc
Base–Emitter On Voltage (I_C = 10 Adc, V_{CE} = 3.0 Vdc)	$V_{BE(on)}$	–	2.8	Vdc
Base–Emitter Saturation Voltage (I_C = 20 Adc, I_B = 200 mAdc)	$V_{BE(sat)}$	–	4.0	Vdc
DYNAMIC CHARACTERISTICS				
Current–Gain Bandwidth Product (I_C = 10 Adc, V_{CE} = 3.0 Vdc, f = 1.0 MHz)	f_T	4.0	–	MHz
Output Capacitance (V_{CB} = 10 Vdc, I_E = 0, f = 0.1 MHz) MJH6284 MJH6287	C_{ob}	 – –	 400 600	pF
Small–Signal Current Gain (I_C = 10 Adc, V_{CE} = 3.0 Vdc, f = 1.0 kHz)	h_{fe}	300	–	–

SWITCHING CHARACTERISTICS

Resistive Load		Symbol	Typical NPN	Typical PNP	Unit
Delay Time	V_{CC} = 30 Vdc, I_C = 10 Adc I_{B1} = I_{B2} = 100 mA Duty Cycle = 1.0%	t_d	0.1	0.1	µs
Rise Time		t_r	0.3	0.3	
Storage Time		t_s	1.0	1.0	
Fall Time		t_f	3.5	2.0	

1. Pulse test: Pulse Width = 300 µs, Duty Cycle = 2.0%.