



SILICON PLASTIC POWER TRANSISTOR
NPN MJE3055T
10A 75W

Technical Data

...designed for general-purpose switching and amplifier application.

- ☞ DC Current Gain - $h_{FE} = 20 - 100 @ I_C = 4A_{dc}$
- ☞ Collector-Emitter Saturation Voltage - $V_{CE(sat)} = 1.1 V_{dc} (Max) @ I_C = 4A_{dc}$
- ☞ Excellent Safe Operating Area
- ☞ TO-220 Package

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector- Emitter Voltage	V_{CEO}	60	Vdc
Collector – Base Voltage	V_{CB}	70	Vdc
Emitter Base Voltage	V_{EB}	5	Vdc
Collector Current – Continuous	I_C	10	Adc
Base Current – Continuous	I_B	6	Adc
Total Power Dissipation @ $T_C = 25^\circ C$ Derate above $25^\circ C$	PD	75 0.6	Watts W/ $^\circ C$
Operating and Storage junction Temperature Range	T_j, T_{stg}	-65 to +150	$^\circ C$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max.	Unit
Thermal resistance junction to case	R_{thjc}	1.67	$^\circ C/W$



ELECTRICAL CHARACTERISTICS : [T_c = 25 °C unless otherwise noted]

Characteristic	Symbol	Min	Typ	Max	Unit
* OFF CHARACTERISTICS :					
Collector–Emitter Sustaining Voltage (1) [I _c =200 mA _{dc} , I _B = 0]	V _{CEO(sus)}	60			V _{dc}
Collector Cutoff Current [V _{CB} = 70 V _{dc} , I _E =0] [V _{CB} =70V _{dc} ,I _E =0,T _C =150ⓈC]	I _{CBO}			1.0	mA _{dc}
Collector Cutoff Current [V _{CE} = 30 V _{dc} , I _B = 0]	I _{CE0}			0.70	mA _{dc}
Collector Cutoff Current [V _{CE} = 70 V _{dc} , V _{BE(off)} = 1.5 V _{dc}] [V _{CE} =70V _{dc} ,V _{BE(off)} =1.5V _{dc} ,T _C =150ⓈC]	I _{CEX}			1.0	mA _{dc}
Emitter Cutoff Current [V _{BE} = 5.0 V _{dc} , I _c = 0]	I _{EBO}			5.0	mA _{dc}
* ON CHARACTERISTICS (1):					
DC Current Gain [I _c = 4.0 A _{dc} , V _{CE} = 4.0 V _{dc}] [I _c = 10 A _{dc} , V _{CE} = 4.0 V _{dc}]	h _{FE}	20 5.0		100	
Collector-Emitter Saturation Voltage [I _c = 4.0 A _{dc} , I _B = 400 mA _{dc}] [I _c = 10 A _{dc} , I _B = 3.3 A _{dc}]	V _{CE(sat)}			1.1 8.0	V _{dc}
Base-Emitter on Voltage [I _c = 4.0 A _{dc} , V _{CE} = 4.0. V _{DC}]	V _{BE(on)}			1.8	V _{dc}
SECOND BREAKDOWN					
Second Breakdown Collector current With Base Forward Biased [V _{CE} =37.5V _{dc} , t = 1.0 s Nonrepetitive]	I _{s/b}	2			A _{dc}
DYNAMIC CHARACTERISTICS :					
Current Gain – Bandwidth Product [I _c = 0.5A _{dc} , V _{CE} =10 V _{dc} , f=500kHz]	f _T	2.0			MHz

- (1) Pulse Test : Pulse Width <300μs , Duty Cycle < 2.0%