TIGER ELECTRONIC CO.,LTD

Product specification

SWITCHMODE Series NPN Silicon Power Transistors

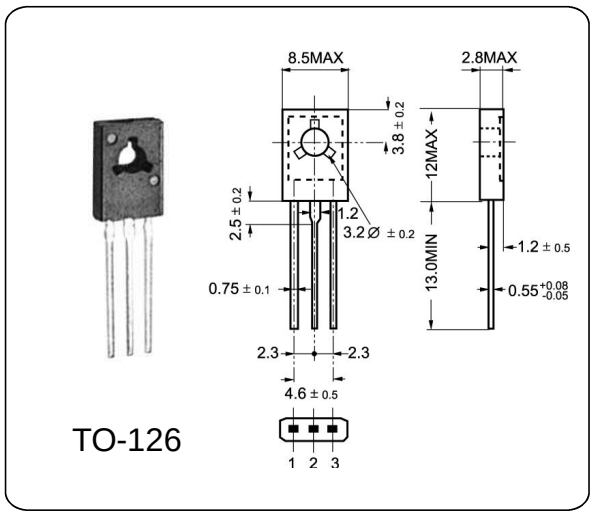
MJE13003

DESCRIPTION

These devices are designed for high −voltage, high −speed power switching inductive circuits where fall time is critical. They are particularly suited for 115 and 220 V SWITCHMODE such as Switching Regulator s, Inverters, Motor Controls,applications Solenoid/Relay drivers and Deflection circuits.

ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	700	V
Collector-Emitter Voltage	V_{CEO}	400	V
Emitter-Base Voltage	V_{EBO}	9	V
Collector Current	I_C	1.5	A
Base Current	I_B	0.75	A
Total Dissipation at	P_{tot}	40	W
Max. Operating Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55~150	°C



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ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Collector Cut-off Current	I_{CEO}	V_{CB}=400V, I_E=0			1.0	mA
Emitter Cut-off Current	I_{EBO}	V_{EB}=9V, I_C=0			1.0	mA
Collector-Emitter Sustaining Voltage	V_{CEO}	I_C=10mA, I_B=0	400			V
DC Current Gain	$h_{FE(1)}$	V_{CE}=2V, I_C=0.5A	8		40	
	$h_{FE(2)}$	V_{CE}=2V, I_C=1.0A	5		25	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=0.5A,I_B=100mA			0.5	V
		I_C=1A,I_B=250mA			1.0	
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=1A,I_B=250mA			1.2	V
Current Gain Bandwidth Product	f_T	V_{CE}=10V,I_C=100mA	4	10		MHz
Storage Time	T_S	I_{B1}=I_{B2}=0.2A t_p=25us		2	4	us