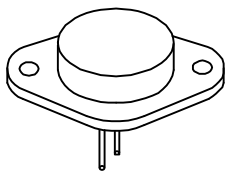
SILICON NPN TRANSISTORS

The UTC 2N3055 is a silicon NPN transistor in TO-3 metal case. It is intended for power switching circuits, series and shunt regulators, output stages and high fidelity amplifiers.



TO-3

ABSOLUTE MAXIMUM RATINGS (Ta=25°C ,unless otherwise specified)

PARAMETERS	SYMBOL	VALUE	UNITS
Collector-Base Voltage	V_{CBO}	100	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector-Emitter Voltage	V_{CEV}	70	V
Collector Current	I_C	15	A
Collector Peak Current(1)	I_{CM}	15	A
Base Current	I_B	7	A
Base Peak Current(1)	I_{BM}	15	A
Total Dissipation at Ta=25°C	P_{tot}	115	W
Storage Temperature	T_{STG}	-65 to 200	°C
Max. Operating Junction Temperature	Tj	200	°C

ELECTRICAL CHARACTERISTICS(Ta=25°C, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Collector-Emitter Sustaining Voltage	V_{CEO}(sus)	I_C=200mA, I_B=0V	60			V
Collector-Emitter Sustaining Voltage	V_{CER}(sus)	I_C=0.2 A, R_{BE}=100 Ohms	70			V
Collector Cut-off Current	I_{CEO}	V_{CE}=30V,IB=0			0.7	mA
Collector Cut-off Current	I_{CEX}	V_{CE}=100V,V_{BE}(off)=1.5V. V_{CE}=100V,V_{BE}(off)=1.5V, Ta=150°C			1.0 5.0	mA
Emitter Cut-off Current	I_{EBO}	V_{BE}=7V,I_C=0			5.0	mA
ON CHARACTERISTICS						
DC Current Gain(note)	h_{FE}	I_C=4A,V_{CE}=4V, I_C=10A,V_{CE}=4V	20 5		70	
Collector-Emitter Saturation Voltage	V_{CE}(sat)	I_C=4A,I_B=400mA I_C=10A,I_B=3.3A			1.1 3.0	V

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Base-Emitter On Voltage	V_{BE}(on)	Ic=4A,V_{CE}=4V			1.5	V
SECOND BREAKDOWN						
Second Breakdown Collector with Base Forward Biased	Is/b	V_{CE}=60V,T=1.0s, Non-repetitive	2.87			A
DYNAMIC CHARACTERISTICS						
Current Gain-Bandwidth Product	fT	Ic=0.5A,V_{CE}=10V,f=1MHz	2.5			MHz
Small-Signal Current Gain	hFE	Ic=1A,V_{CE}=4V,f=1kHz	15		120	
Small-Signal Current Gain Cut-off Frequency	fHFE	Ic=1A,V_{CE}=4V F=1.0kHz	10			kHz

Note(1):Pulse Test: Puls Width<=300μs, Duty Cycle<=2%