

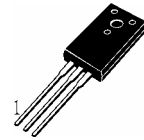
APPLICATIONS

Large Current Switching

ABSOLUTE MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$)

T_{stg}	Storage Temperature	$-55\sim 150^{\circ}\text{C}$
T_j	Junction Temperature	150°C
P_C	Collector Dissipation ($T_c=25^{\circ}\text{C}$)	10W
P_C	Collector Dissipation ($T_A=25^{\circ}\text{C}$)	1W
V_{CBO}	Collector-Base Voltage	-25V
V_{CEO}	Collector-Emitter Voltage	-20V
V_{EBO}	Emitter-Base Voltage	-5V
I_C	Collector Current	-5A

TO-126



1—Base, B
2—Collector, C
3—Emitter, E

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$)

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BV_{CBO}	Collector-Base Breakdown Voltage	-25			V	$I_C=-10\mu\text{A}$, $I_E=0$
BV_{CEO}	Collector-Emitter Breakdown Voltage	-20			V	$I_C=-1\text{mA}$, $I_B=0$
BV_{EBO}	Emitter-Base Breakdown Voltage	-5			V	$I_E=-10\mu\text{A}$, $I_C=0$
I_{CBO}	Collector Cut-off Current			-500	nA	$V_{\text{CB}}=-20\text{V}$, $I_E=0$
I_{EBO}	Emitter Cut-off Current			-500	nA	$V_{\text{EB}}=-4\text{V}$, $I_C=0$
$H_{\text{FE}}(1)$	DC Current Gain	100		400		$V_{\text{CE}}=-2\text{V}$, $I_C=-500\text{mA}$
$H_{\text{FE}}(2)$	DC Current Gain	60				$V_{\text{CE}}=-2\text{V}$, $I_C=-4\text{A}$
$V_{\text{CE(sat1)}}$	Collector- Emitter Saturation Voltage		-250	-500	mV	$I_C=-3\text{A}$, $I_B=-60\text{mA}$
$V_{\text{CE(sat2)}}$	Collector- Emitter Saturation Voltage		-1.0	-1.3	V	$I_C=-3\text{A}$, $I_B=-60\text{mA}$
$V_{\text{BE(sat)}}$	Base-Emitter Saturation Voltage		-0.94	-1.2	V	$I_C=-3\text{A}$, $I_B=-60\text{mA}$
f_t	Current Gain-Bandwidth Product		320		MHz	$V_{\text{CE}}=-5\text{V}$, $I_C=-200\text{mA}$,
C_{ob}	Output Capacitance		60		pF	$V_{\text{CB}}=-10\text{V}$, $I_E=0$, $f=1\text{MHz}$
t_{ON}	Turn-On Time			40	nS	See specified test circuit
t_{STG}	Storage Time			200	nS	
t_{F}	Fall Time			10	nS	

h_{FE} Classification

R

S

T

100—200

140—280

200—400