

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

PARAMETERS	SYMBOL	RATINGS	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_D	115	W
Max. Operating Junction Temperature	T_J	+200	°C
Storage Temperature	T_{STG}	-65 ~ 200	°C

Note 1.Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ 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	$V_{CER(SUS)}$	$I_C=0.2 A, R_{BE}=100\Omega$	70			V
Collector Cut-off Current	I_{CEO}	$V_{CE}=30V, I_B=0$			0.7	mA
Collector Cut-off Current	I_{CEX}	$V_{CE}=100V, V_{BE(OFF)}=1.5V$ $V_{CE}=100V, V_{BE(OFF)}=1.5V,$ $T_a=150^\circ C$			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 2)	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
Base-Emitter On Voltage	$V_{BE(ON)}$	$I_C=4A, V_{CE}=4V$			1.5	V
SECOND BREAKDOWN						
Second Breakdown Collector with Base Forward Biased	$I_{S/b}$	$V_{CE}=60V, T=1.0s, \text{Non-repetitive}$	2.87			A
DYNAMIC CHARACTERISTICS						
Current Gain-Bandwidth Product	f_T	$I_C=0.5A, V_{CE}=10V, f=1MHz$	2.5			MHz
Small-Signal Current Gain	h_{FE}	$I_C=1A, V_{CE}=4V, f=1kHz$	15		120	
Small-Signal Current Gain Cut-off Frequency	fh_{FE}	$I_C=1A, V_{CE}=4V, f=1kHz$	10			kHz

Note 2. Pulse Test: PW \leq 300 μ s, Duty Cycle \leq 2%

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