

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

- High current surface mount PNP silicon switching transistor for Load management in portable applications

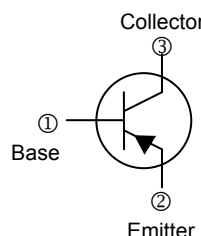
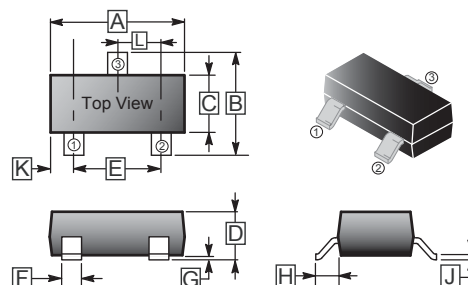
MARKING

589

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-23	3K	7' inch

SOT-23



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.04	G	-	0.18
B	2.10	2.80	H	0.40	0.60
C	1.20	1.60	J	0.08	0.20
D	0.89	1.40	K	0.6	REF.
E	1.78	2.04	L	0.85	1.15
F	0.30	0.50			

MAXIMUM RATINGS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Collector - Base Voltage	V _{CBO}	-50	V
Collector - Emitter Voltage	V _{CEO}	-30	V
Emitter - Base Voltage	V _{EBO}	-5	V
Collector Current - Continuous	I _C	-1	A
Collector Power Dissipation	P _C	310	mW
Thermal Resistance From Junction To Ambient	R _{θJA}	403	°C / W
Junction, Storage Temperature	T _J , T _{STG}	150, -55~150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Collector-Base Breakdown Voltage	V _{(BR)CBO}	-50	-	-	V	I _C = -100μA, I _E = 0
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	-30	-	-	V	I _C = -10mA, I _B = 0
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	-5	-	-	V	I _E = -100μA, I _C = 0
Collector Cut-Off Current	I _{CBO}	-	-	-0.1	μA	V _{CB} = -30V, I _E = 0
Collector-emitter cut-off current	I _{CES}	-	-	-0.1	μA	V _{CE} = -30V
Emitter Cut-Off Current	I _{EBO}	-	-	-0.1	μA	V _{EB} = -4V, I _C = 0
DC Current Gain	h _{FE}	100	-	-		V _{CE} = -2V, I _C = -1mA
		100	-	300		V _{CE} = -2V, I _C = -500mA
		80	-	-		V _{CE} = -2V, I _C = -1A
		40	-	-		V _{CE} = -2V, I _C = -2A
Collector-Emitter Saturation Voltage	V _{CE(sat)}	-	-	-0.25	V	I _C = -500mA, I _B = -50mA
		-	-	-0.3		I _C = -1A, I _B = -100mA
		-	-	-0.65		I _C = -2A, I _B = -200mA
Base-Emitter Saturation Voltage	V _{BE(sat)}	-	-	-1.2	V	I _C = -1A, I _B = -100mA
Transition frequency	f _T	100	-	-	MHz	V _{CE} = -5V, I _C = -100mA, f = 100MHz
Collector Output Capacitance	C _{ob}	-	-	15	pF	f = 1MHz

CHARACTERISTIC CURVES

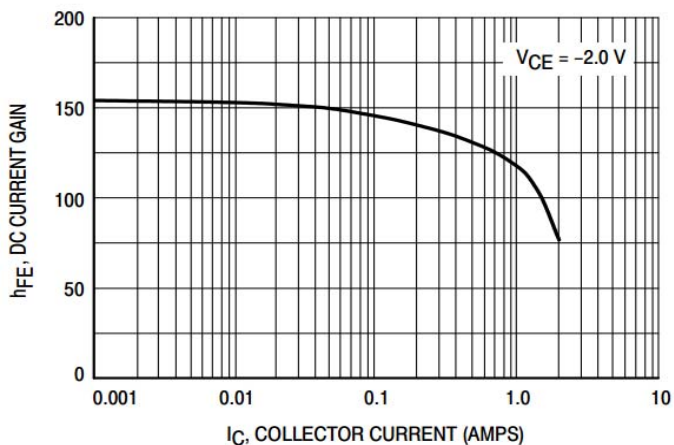


Figure 1. DC Current Gain versus Collector Current

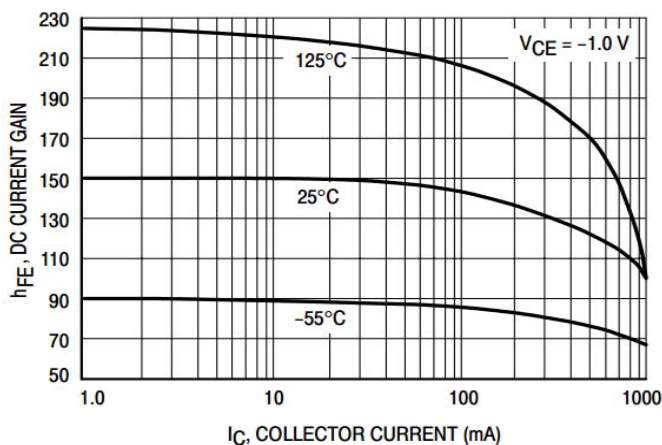


Figure 2. DC Current Gain versus Collector Current

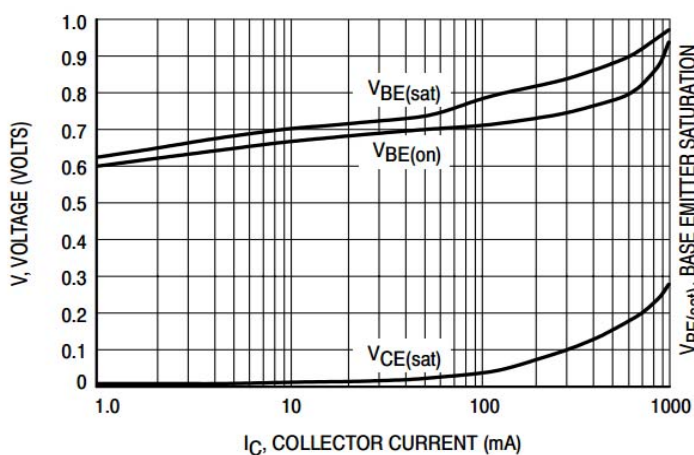


Figure 3. "On" Voltages

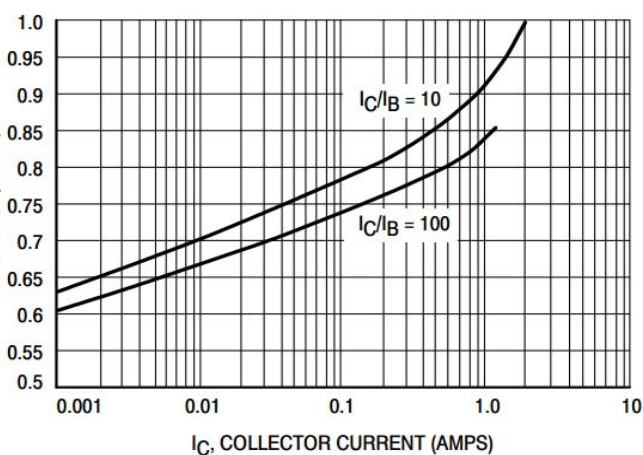


Figure 4. Base Emitter Saturation Voltage versus Collector Current

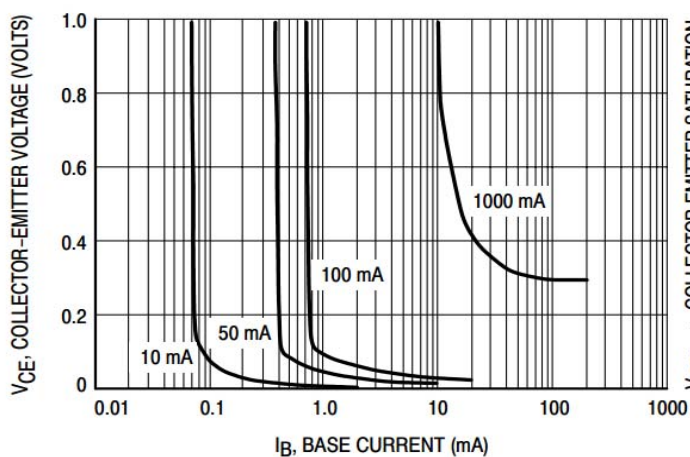


Figure 5. Collector Emitter Saturation Voltage versus Collector Current

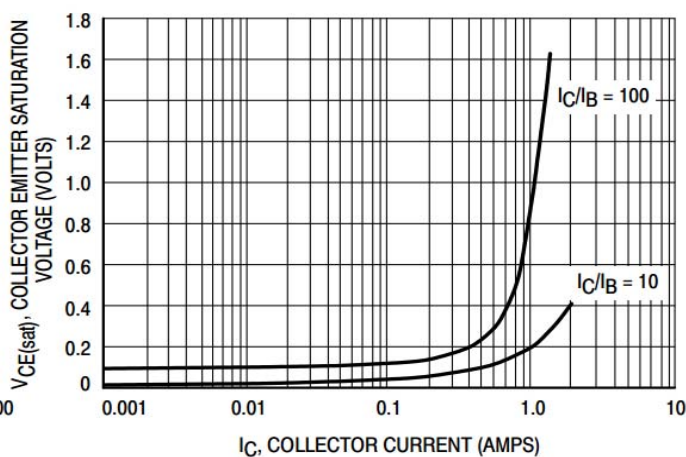


Figure 6. Collector Emitter Saturation Voltage versus Collector Current

CHARACTERISTIC CURVES

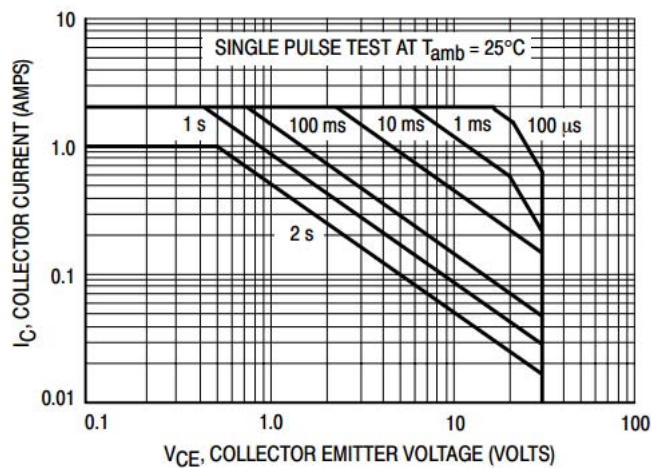


Figure 7. Safe Operating Area

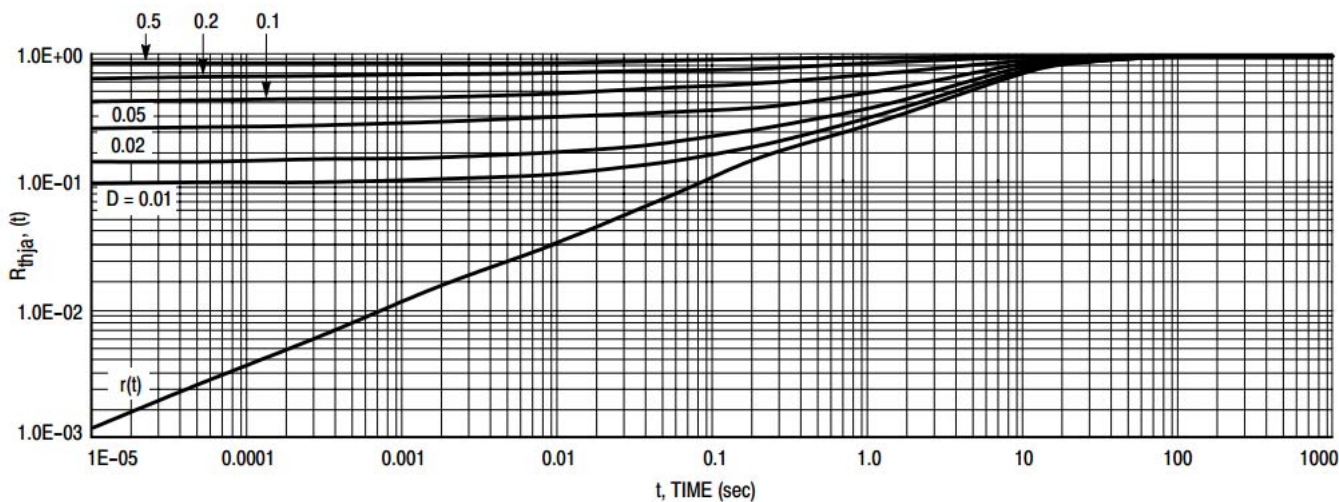


Figure 8. Normalized Thermal Response