

### LED Drive Application

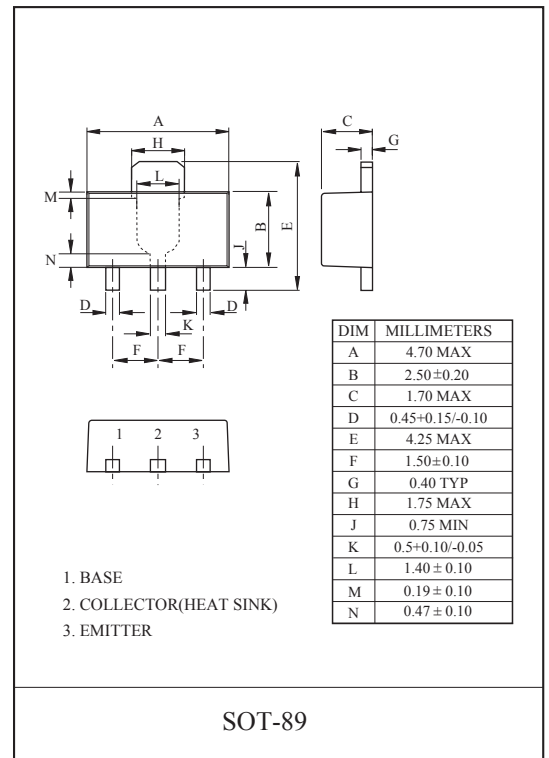
### FEATURE

- Low Collector-Emitter Saturation Voltage .
- High Current Gain.

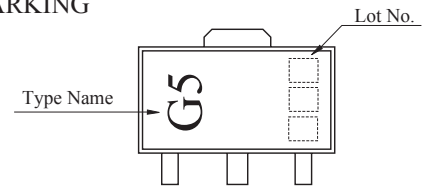
### MAXIMUM RATING (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		$V_{CBO}$	120	V
Collector-Emitter Voltage		$V_{CEO}$	100	V
Emitter-Base Voltage		$V_{EBO}$	5	V
Collector Current	DC	$I_C$	1	A
	Pulse	$I_{CP}$	2	
Base Current		$I_B$	500	mA
Collector Power Dissipation		$P_C$	500	mW
		$P_C^*$	1	W
Junction Temperature		$T_j$	150	°C
Storage Temperature Range		$T_{stg}$	-55 ~ 150	°C

Note : \* Package Mounted on Ceramic substrate (250mm<sup>2</sup> × 0.8t)



### MARKING

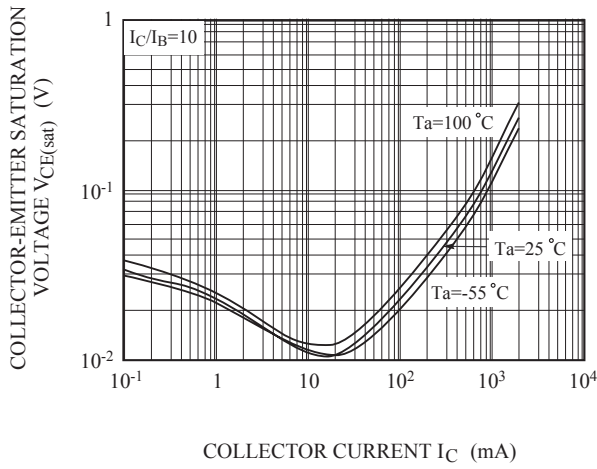


### ELECTRICAL CHARACTERISTICS (Ta=25°C)

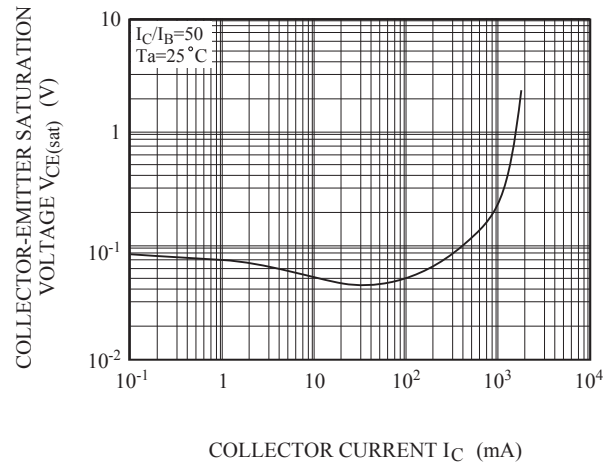
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=100 \mu A$	120	-	-	V
Collector-Emitter Breakdown Voltage **	$V_{(BR)CEO}$	$I_C=1mA$	100	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=100 \mu A$	5	-	-	V
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=120V$	-	-	1	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=5V, I_C=0A$	-	-	1	$\mu A$
Collector-Emitter Cut-Off Current	$I_{CES}$	$V_{CES}=100V, V_{BE}=0V$	-	-	1	$\mu A$
Collector-Emitter Saturation Voltage **	$V_{CE(sat)}(1)$	$I_C=100mA, I_B=10mA$	-	-	0.06	V
	$V_{CE(sat)}(2)$	$I_C=500mA, I_B=50mA$	-	-	0.18	
	$V_{CE(sat)}(3)$	$I_C=200mA, I_B=1mA$	-	0.7	1.0	
DC Current Gain **	$h_{FE}(1)$	$V_{CE}=10V, I_C=1mA$	150	-	-	
	$h_{FE}(2)$	$V_{CE}=10V, I_C=250mA$	200	-	500	
	$h_{FE}(3)$	$V_{CE}=10V, I_C=500mA$	100	-	-	
	$h_{FE}(4)$	$V_{CE}=1.0V, I_C=200mA$	150	-	-	

\*\* Pulse Width = 300  $\mu s$ , Duty Cycle  $\leq 2\%$ .

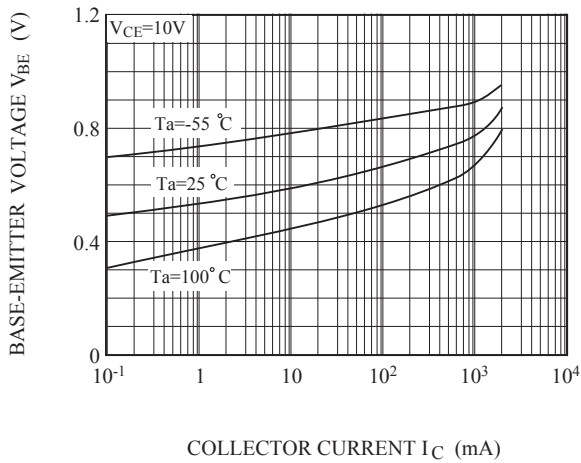
$V_{CE(sat)} - I_C$



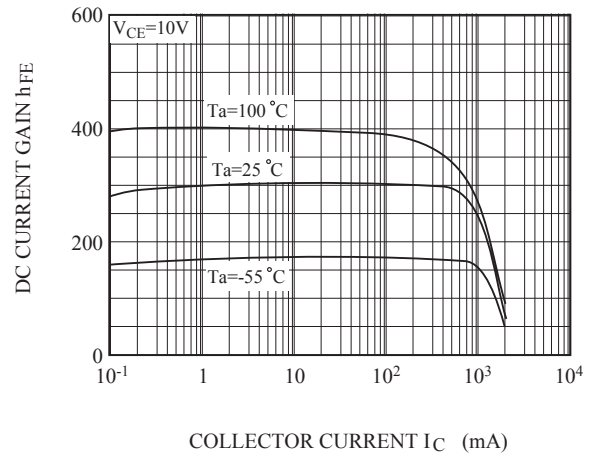
$V_{CE(sat)} - I_C$



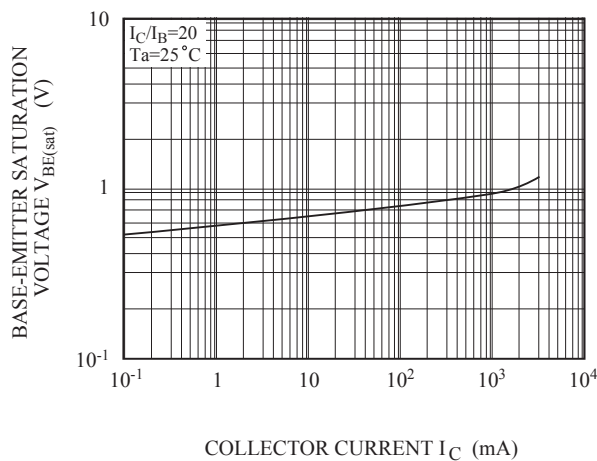
$V_{BE} - I_C$



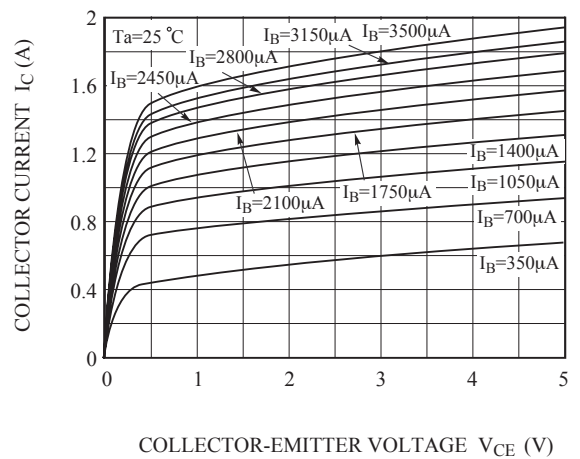
$h_{FE} - I_C$



$V_{BE(sat)} - I_C$



$I_C - V_{CE}$



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