SGS-THOMSON MICROELECTRONICS

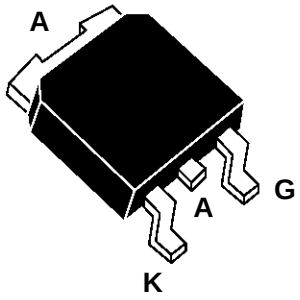
TN805/TN815-B

SCR's

PRELIMINARY DATASHEET

FEATURES

- I_{TRMS} = 8 A
- V_{DRM} = 400 V to 800 V
- $I_{GT} \leq$ 5 mA and 15 mA



DPAK
(Plastic)

DESCRIPTION

The TN805/TN815-B serie of SCR uses a high performance TOPGLASS PNPN technology.
The parts are intended for general purpose applications using mount technology.

ABSOLUT MAXIMUM RATINGS

Symbol	Parameter		Value	Unit
$I_{T(RMS)}$	RMS on-state current (180° conduction angle)	Tc = 105 °C	8	A
$I_{T(AV)}$	Mean on-state current (180° conduction angle)	Tc = 105 °C	5	A
I_{TSM}	Non repetitive surge peak on-state current (Tj initial = 25°C)	tp = 8.3 ms	73	A
		tp = 10 ms	70	
I^2t	I^2t value for fusing	tp = 10 ms	24.5	A^2s
dI/dt	Critical rate of rise of on-state current I_G = 100mA di_G/dt = 1A/µs		100	A/µs
Tstg Tj	Storage temperature range Operating junction temperature range		- 40 to + 150 - 40 to + 125	°C °C
Tl	Maximum lead temperature for soldering during 10 s		260	°C

Symbol	Parameter	TN805 or TN815-				Unit
		400B	600B	700B	800B	
V_{DRM} V_{RRM}	Repetitive peak off-state voltage Tj = 125 °C	400	600	700	800	V

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
Rth (j-c)	Junction to case for DC	2.5	°C/W

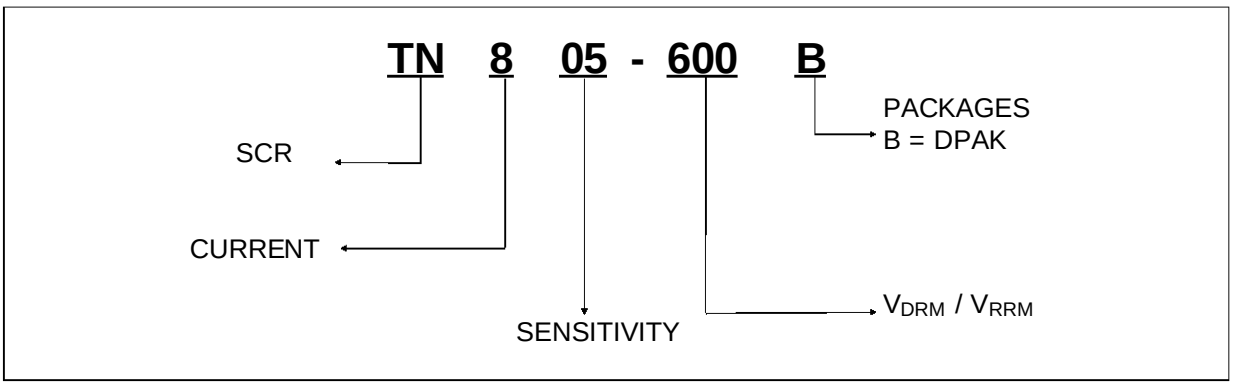
GATE CHARACTERISTICS (maximum values)

$P_{G(AV)}$ = 1 W P_{GM}= 10 W (tp = 20 µs) I_{GM} = 4 A (tp = 20 µs) V_{RGM} = 5 V

ELECTRICAL CHARACTERISTICS

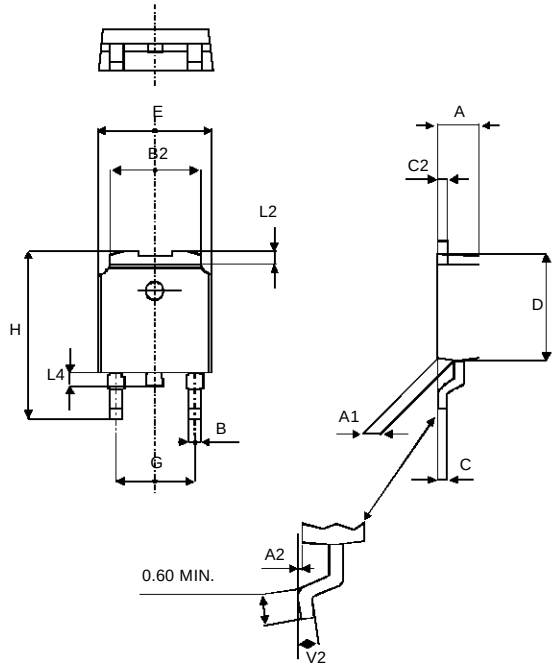
Symbol	Test Conditions			Value		Unit
				TN805	TN835	
I_{GT}	V_D=12V (DC) R_L=33Ω	Tj=25°C	MAX	5	15	mA
V_{GT}	V_D=12V (DC) R_L=33Ω	Tj=25°C	MAX	1.5		V
V_{GD}	V_D=V_{DRM} R_L=3.3kΩ	Tj=125°C	MIN	0.2		V
tgt	V_D=V_{DRM} I_G = 40mA dI_G/dt = 0.5A/µs I_{TM} = 3 x $I_{T(VA)}$	Tj=25°C	TYP	2		µs
I_L	I_G=1.2 I_{GT}	Tj=25°C	MAX	50	100	mA
I_H	I_T= 150mA gate open	Tj=25°C	MAX	25	50	mA
V_{TM}	I_{TM}= 16A tp= 380µs	Tj=25°C	MAX	1.6		V
I_{DRM} I_{RRM}	V_{DRM} Rated V_{RRM} Rated	Tj=25°C	MAX	10		µA
		Tj=125°C	MAX	2		mA
dV/dt	Linear slope up to V_D=67%V_{DRM} gate open	Tj=125°C	MIN	50	100	V/µs

ORDERING INFORMATION



PACKAGE MECHANICAL DATA

DPAK Plastic



REF.	DIMENSIONS					
	Millimeters			Inches		
	Min.	Typ.	Max	Min.	Typ.	Max.
A	2.20		2.40	0.086		0.094
A1	0.90		1.10	0.035		0.043
A2	0.03		0.23	0.001		0.009
B	0.64		0.90	0.025		0.035
B2	5.20		5.40	0.204		0.212
C	0.45		0.60	0.017		0.023
C2	0.48		0.60	0.018		0.023
D	6.00		6.20	0.236		0.244
E	6.40		6.60	0.251		0.259
G	4.40		4.60	0.173		0.181
H	9.35		10.10	0.368		0.397
L2		0.80			0.031	
L4	0.60		1.00	0.023		0.039
V2	0°		8°	0°		8°

MARKING : Type number