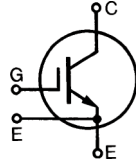
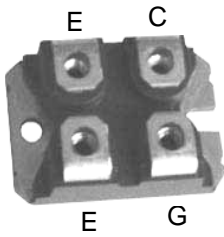


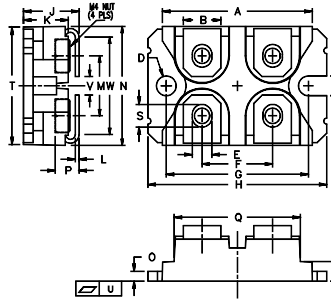
SG200N06S

Discrete IGBTs



G=Gate, C=Collector, E=Emitter

Dimensions SOT-227(ISOTOP)



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	31.50	31.88	1.240	1.255
B	7.80	8.20	0.307	0.323
C	4.09	4.29	0.161	0.169
D	4.09	4.29	0.161	0.169
E	4.09	4.29	0.161	0.169
F	14.91	15.11	0.587	0.595
G	30.12	30.30	1.186	1.193
H	37.80	38.20	1.489	1.505
J	11.68	12.22	0.460	0.481
K	8.92	9.60	0.351	0.378
L	0.76	0.84	0.030	0.033
M	12.60	12.85	0.496	0.506
N	25.15	25.42	0.990	1.001
O	1.98	2.13	0.078	0.084
P	4.95	5.97	0.195	0.235
Q	26.54	26.90	1.045	1.059
R	3.94	4.42	0.155	0.174
S	4.72	4.85	0.186	0.191
T	24.59	25.07	0.968	0.987
U	-0.05	0.1	-0.002	0.004
V	3.30	4.57	0.130	0.180
W	0.780	0.830	0.030	0.033

Symbol	Test Conditions	Maximum Ratings	Unit
V_{CES} V_{CGR}	T _J =25°C to 150°C T _J =25°C to 150°C; R _{GE} =1 MΩ;	600 600	V
V_{GES} V_{GEM}	Continuous Transient	±20 ±30	V
I_{C25} I_{C90} I_{CM}	T _C =25°C T _C =90°C T _C =25°C, 1 ms	200 100 300	A
SSOA (RBSOA)	V _{GE} =15V; T _{VJ} =125°C; R _G =22Ω Clamped inductive load, L=30uH	I _{CM} =100 @ 0.8 V _{CES}	A
P_c	T _C =25°C	600	W
T_J T_{JM} T_{stg}		-55...+150 150 -55...+150	°C
V_{ISOL}	50/60Hz t = 1 min I _{ISOL} ≤ 1 mA t = 1 s	2500 3000	V~
M_d	Mounting torque Terminal connection torque(M4)	1.5/13 1.5/13	Nm/lb.in.
Weight		30	g

(T_J=25°C, unless otherwise specified)

Symbol	Test Conditions	Characteristic Values			Unit
		min.	typ.	max.	
BV_{CES}	I _C =250uA; V _{GE} =0V	600			V
V_{GE(th)}	I _C =10mA; V _{CE} =V _{GE}	2.5		6	V
I_{CES}	V _{CE} =0.8V _{CES} ; T _J =25°C V _{GE} =0V; T _J =125°C			200 2	uA mA
I_{GES}	V _{CE} =0V; V _{GE} =±20V			±400	nA
V_{CE(sat)}	I _C =I _{C90} ; V _{GE} =15V			2.5	V

SG200N06S

Discrete IGBTs

(T_J=25°C, unless otherwise specified)

Symbol	Test Conditions	Characteristic Values			Unit
		min.	typ.	max.	
g _{ts}	I _C =60A; V _{CE} =10V Pulse test, t ≤ 300us, duty cycle ≤ 2%	40	57		S
C _{ies} C _{oes} C _{res}	V _{CE} =25V; V _{GE} =0V; f=1MHz		9000 600 305		pF
Q _g Q _{ge} Q _{gc}	I _C =I _{C90} ; V _{GE} =15V; V _{CE} =0.5V _{CEs}		465 52 228		nC
t _{d(on)} t _{ri} E _{on} t _{d(off)} t _{fi} E _{off}	Inductive load, T _J =25°C I _C =I _{C90} ; V _{GE} =15V; L=30uH V _{CE} =0.8V _{CEs} ; R _G =R _{off} =2.4 Ω Remarks: Switching times may increase for V _{CE} (Clamp) > 0.8V _{CEs} higher T _J or increased R _G		100 100 2.4 800 350 14.4	1100 500	ns ns mJ ns ns mJ
t _{d(on)} t _{ri} E _{on} t _{d(off)} t _{fi} E _{off}	Inductive load, T _J =125°C I _C =I _{C90} ; V _{GE} =15V; L=30uH V _{CE} =0.8V _{CEs} ; R _G =R _{off} =2.4 Ω Remarks: Switching times may increase for V _{CE} (Clamp) > 0.8V _{CEs} higher T _J or increased R _G		100 200 4.8 780 250 14.4		ns ns mJ ns ns mJ
R _{thJC}				0.21	K/W
R _{thCK}			0.05		K/W