FIG. 17

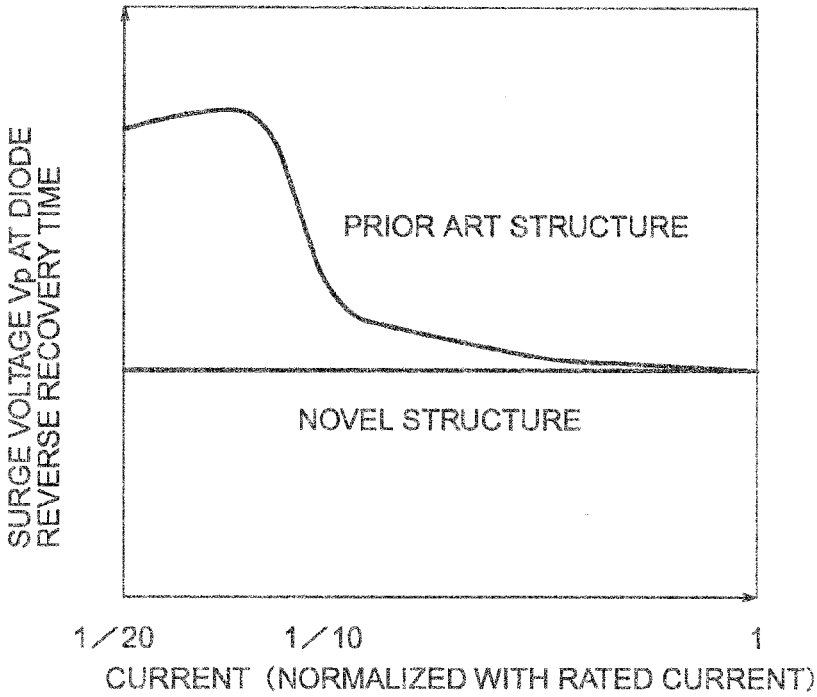
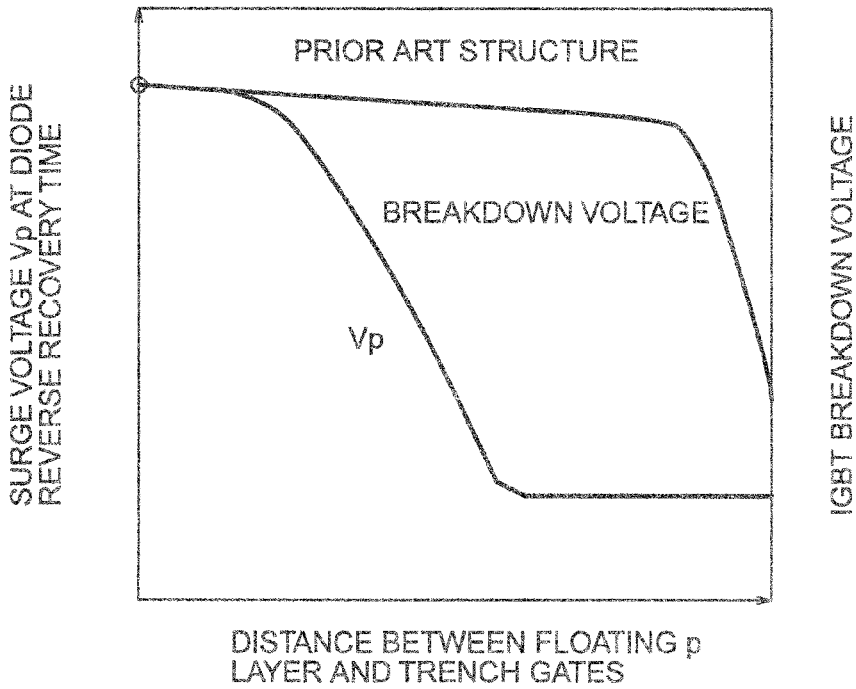

SURGE VOLTAGE Vp AT DIODE REVERSE RECOVERY TIME
PRIOR ART STRUCTURE
NOVEL STRUCTURE
1/20
1/10
1
CURRENT (NORMALIZED WITH RATED CURRENT)

FIG. 18


PRIOR ART STRUCTURE
SURGE VOLTAGE Vp AT DIODE REVERSE RECOVERY TIME
BREAKDOWN VOLTAGE
Vp
IGBT BREAKDOWN VOLTAGE
DISTANCE BETWEEN FLOATING p LAYER AND TRENCH GATES